S. HRG. 101-159

THE INCOME DISTRIBUTION

HEARING

BEFORE THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

ONE HUNDRED FIRST CONGRESS

FIRST SESSION

MAY 11, 1989

Printed for the use of the Joint Economic Committee

U.S. GOVERNMENT PRINTING OFFICE
19-952
WASHINGTON : 1989

For sale by the Superintendent of Documents, Congressional Sales Office
U.S. Government Printing Office, Washington, DC 20402

J841-19

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THE INCOME DISTRIBUTION

THURSDAY, MAY 11, 1989

CONGRESS OF THE UNITED STATES,
JOINT ECONOMIC COMMITTEE,
Washington, DC.

The committee met, pursuant to notice, at 10 a.m., in room SD-562, Dirksen Senate Office Building, Hon. Lee H. Hamilton (chairman of the committee) presiding.

Present: Representatives Hamilton and Upton.

Also present: Joseph J. Minarik, executive director; and Jim Klumpner, Chad Stone, and Chris Frenze, professional staff members.

OPENING STATEMENT OF REPRESENTATIVE HAMILTON, CHAIRMAN

Representative HAMILTON. The hearing of the Joint Economic Committee will come to order. This morning we want to examine the U.S. income distribution in some detail. Our witnesses will help us to go behind the aggregate statistics to look at the differing experiences of groups within the population. We will also address the adequacy of our statistics to see if they accurately describe differences in people's well-being. Though our primary objective will be to get at the facts of the income distribution, we also hope to gain some understanding of the underlying causes of income shifts.

I wish to welcome our distinguished panel of experts this morning: Prof. Lowell Gallaway of Ohio University will lead off with a report of his research on a broad range of distribution issues. Prof. Peter Gottschalk of Boston College will follow with a discussion of the income distribution for households headed by prime-age men. Finally, Prof. Timothy Smeeding will compare the U.S. income distribution with other industrialized countries and discuss adjusting income for the effects of taxes and in-kind transfers.

Your written testimony, of course, gentlemen, will be entered into the record in full. We ask that you keep your initial oral testimony relatively brief, so that we will have some opportunity for questions.

Congressman Upton, do you wish to make a statement?

Representative UPTON. I am not going to read my opening statement, but I would like it to be entered into the record. We have copies that are available to the press.

Representative HAMILTON. Without objection, it is so ordered.

[The written statement follows:]

WRITTEN OPENING STATEMENT OF REPRESENTATIVE UPTON

IT GIVES ME GREAT PLEASURE TO JOIN IN WELCOMING OUR WITNESSES BEFORE US TODAY. I LOOK FORWARD TO THIS OPPORTUNITY TO REVIEW THE RECORD ON INCOME GROWTH DURING THE CURRENT EXPANSION.

DURING THE EXPANSION MIDDLE AMERICAN FAMILY INCOME HAS CLIMBED EVERY YEAR, BOTH IN NOMINAL AND IN REAL DOLLARS. IN 1987 IT HAD REACHED A RECORD LEVEL OF $30,853, A 12 PERCENT INCREASE DURING THE UPSWING. SUSTAINED NONINFLATIONARY ECONOMIC GROWTH RAISED FAMILY INCOME AND AMERICAN LIVING STANDARDS.

MOREOVER, THE ECONOMIC PROGRESS OF THE 1980S HAS BENEFITED AMERICANS AT EVERY INCOME LEVEL. FOR EXAMPLE, DURING THIS EXPANSION THE AVERAGE INCOME OF THE LOWEST FIFTH OF ALL FAMILIES ROSE 9.9 PERCENT. I BELIEVE THAT THE SUBSTANTIAL GROWTH IN INCOME FOR ALL LEVELS IS A POSITIVE ISSUE IN THIS EXPANSION, AND I HOPE WE CAN SPEND SOME TIME TODAY DISCUSSING HOW WE CAN KEEP THE TREND GOING.

I WOULD LIKE TO TAKE A MOMENT NOW TO DISCUSS ONE OF THE MISPERCEPTIONS IN THIS AREA. THERE HAVE BEEN SOME RECENT STUDIES WHICH PRESENT THE ISSUE DIFFERENTLY THAN I HAVE JUST DONE. AS THE ATTACHED GRAPH SHOWS, IF A STUDY COMPARES PRESENT INCOME LEVELS TO THOSE IN 1973 OR 1979, AND IGNORES THE FALL IN INCOME FROM 1979 TO

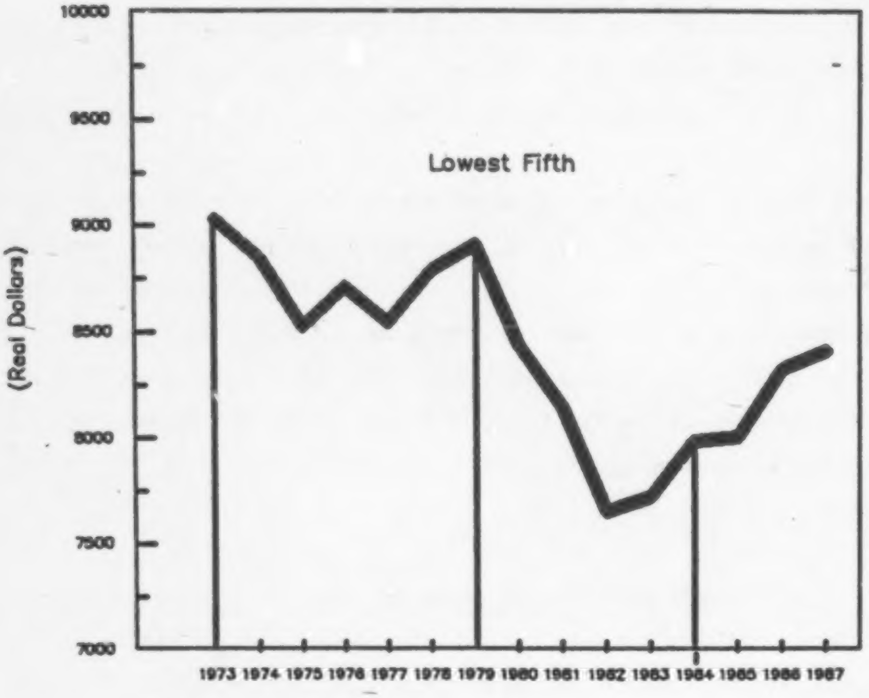
1982, THE STUDY CAN SOMEHOW CONCLUDE THAT INCOMES HAVEN'T GROWN. AS THE GRAPH SHOWS, THIS WOULD BE A MISLEADING CONCLUSION. AVERAGE FAMILY INCOME OF THE BOTTOM FIFTH HAS TRENDED STEADILY UPWARD SINCE 1982. WHEN WORKING ON INCOME ISSUES, I ENCOURAGE MY COLLEAGUES TO ASK THAT DATA FOR EACH YEAR BE SHOWN, AS I HAVE DONE ON THE GRAPH.

TO PUT THE INCOME ISSUE IN PERSPECTIVE, IT HELPS TO GO BACK TO THE START OF THIS DECADE. IN 1980 ALONE REAL MIDDLE AMERICAN FAMILY INCOME DECLINED $1,673. THIS NEGATIVE TREND HAD ACTUALLY STARTED A YEAR EARLIER, AND CONTINUED THROUGH 1982. ALTOGETHER REAL FAMILY INCOME FELL $3,139 IN THE YEARS 1979 THROUGH 1982. THEREFORE, I HOPE WE CAN FOCUS THIS HEARING ON THE PRESENT STRENGTH IN INCOME GROWTH AT ALL LEVELS, AND PARTICULARLY ON HOW WE CAN MAINTAIN THAT GROWTH.

OF COURSE, THERE IS AN IMPORTANT DIFFERENCE BETWEEN LOOKING AT THE LEVELS OF INCOME, AND THE DISTRIBUTION OF INCOME. A POLICY WHICH FOCUSES ON ECONOMIC GROWTH CAN MAKE THE ECONOMIC PIE LARGER SO THAT EVERYONE RECEIVES A LARGER SLICE. HOWEVER, WHEN POLICYMAKERS EMPHASIZE ECONOMIC REDISTRIBUTION, THE RISK IS THAT THE ECONOMIC PIE WILL SHRINK AND EVERYONE WILL BE WORSE OFF. THIS WAS CERTAINLY THE EXPERIENCE OF THE "LIMITS TO GROWTH" ERA IN THE LATE 1970S. CONSEQUENTLY, CONTINUATION OF THE CURRENT ECONOMIC EXPANSION IS A TOP PRIORITY OF ECONOMIC POLICY.

THANK YOU.

FAMILY INCOME



SOURCE: Bureau of the Census

Representative **Hamilton**. Mr. Gallaway, you may proceed.

STATEMENT OF LOWELL GALLAWAY, PROFESSOR OF ECONOMICS, OHIO UNIVERSITY

Mr. **Gallaway**. Thank you for inviting me to testify before the JEC today. I have very fond memories of the time I spent working here in 1982 and of the subsequent contacts with the committee.

On this occasion, my remarks will reflect the views of both myself and my colleague at Ohio University, Richard Vedder, and are based on a more detailed technical report, which has an additional coauthor, Prof. Roy Boyd. I would ask that it be made a part of the formal hearing record.

Representative **Hamilton**. Without objection, it is so ordered. We will place the report at the end of your oral statement.

Mr. **Gallaway**. Professor Vedder sends his regrets at not being here today, but at this point he is en route between Athens, OH, and Plains, GA, to escort former President Jimmy Carter to our campus for a lecture visit. But now, on to the subject at hand.

As an introduction to this topic, it is useful to summarize the most recent economic growth experience. The period from 1973 to 1981 saw either declines or flatness in real income statistics. Real median family income fell by 9.2 percent, real mean family income declined by 7.3 percent, and real per capita income remained virtually unchanged. By contrast, since 1981, real median family income has risen by 10.3 percent, real mean family income is up by 13.3 percent and real per capita income has increased by 16 percent. Consequently, any consideration of current trends in inequality has to be placed in a context of the first substantial increases in real income levels since the 1960's and early 1970's.

Keeping in mind that a world with rising income levels for all is preferable to one with falling income levels but greater equality, I turn to the issue of income redistribution and its relationship to patterns of economic growth.

These are complex concepts. They result from the interplay between market forces, institutional arrangements, demographic and family structure, and public policy. Underlying the linkages between these factors are the behavioral responses of individual Americans to shifts in the tides of public policy and economic affairs.

A partial illustration of the relationships among these elements of the process through which patterns of income distribution and levels of economic growth are determined is provided by the simple schematic diagram that I include with my statement.

This being a public policy oriented body, that diagram focuses on the way in which the two major instruments of government policy in this area, taxation and the provision of income transfers, affect both economic growth and the distribution of income.

The stylized facts of the growth and distribution experience of the United States in the post-World War II era are well known. At times, income levels rise continuously while the standard index used to measure income inequality falls. This is especially true in the interval from 1947 through 1968. However, at other times, as income rises, inequality increases, such as during the periods 1968–

73 and 1981 through 1987. And, between 1973 and 1981, as already indicated, most real income measures show a decline, while the Census Bureau's index of income concentration is rising.

This range of actual outcomes is suggestive of the complexity of the interactions among the determinants of economic growth and the pattern of income distribution.

However, this does not mean that we are bereft of knowledge concerning the workings of individual parts of the process that ultimately produces these economic outcomes. We do have evidence and we do have insights into these matters.

Our views in this regard are contained in the detailed technical submission, and I will now summarize its major conclusions:

First, we find that if the national index of income concentration is adjusted to remove the inequality produced by interstate income differentials, what remains, which we call core inequality, shows a general pattern of increase throughout the post-World War II period. Core inequality is not simply a function of purely market forces but is influenced by many other considerations such as family structure, demographic differences, and public policy.

Second, a further important factor in accounting for the observed increase in income inequality since the late 1960's is the decline in average family size. Below a family size of four, income inequality increases as family and household size decline. This may well be tied to the observed phenomenon of a shift toward two-income families—such as husband and wife—at higher income levels.

Third, where government tax and expenditure policies are relatively small in magnitude, by historic standards, they operate to reduce income inequality. However, as they grow in size, a threshold is reached, beyond which they lead to more, rather than less, inequality.

Fourth, there has been a significant decline in the proportion of income received by the poor from sources other than government cash transfers. In 1970, less than one-half the money income of poor families came from government cash transfers. By 1986, about three-fourths of the money income of households in the bottom 20 percent, or quintile, of the money income distribution was of the government cash transfer variety.

Fifth, evaluated on the basis of consumption spending, rather than money income levels, there appears to be greater equality in the United States than indicated by the money income distribution data.

Sixth, current evidence suggests a substantial amount of income redistribution takes place in the United States. On average, in 1986, households in the bottom quintile of the money income distribution received about $5,400 each in government cash and noncash transfers, net of State and Federal income and Social Security tax payments. At the same time, among the top quintile, income and Social Security tax payments exceeded government cash and noncash transfers by almost $18,000 per household.

Seventh, an evaluation of the growth and distributional effects of the 1986 Tax Reform Act in the framework of a broad model of the American economy indicates that its longrun effects will be to both increase economic growth while generating greater equality in consumption spending across various income groups.

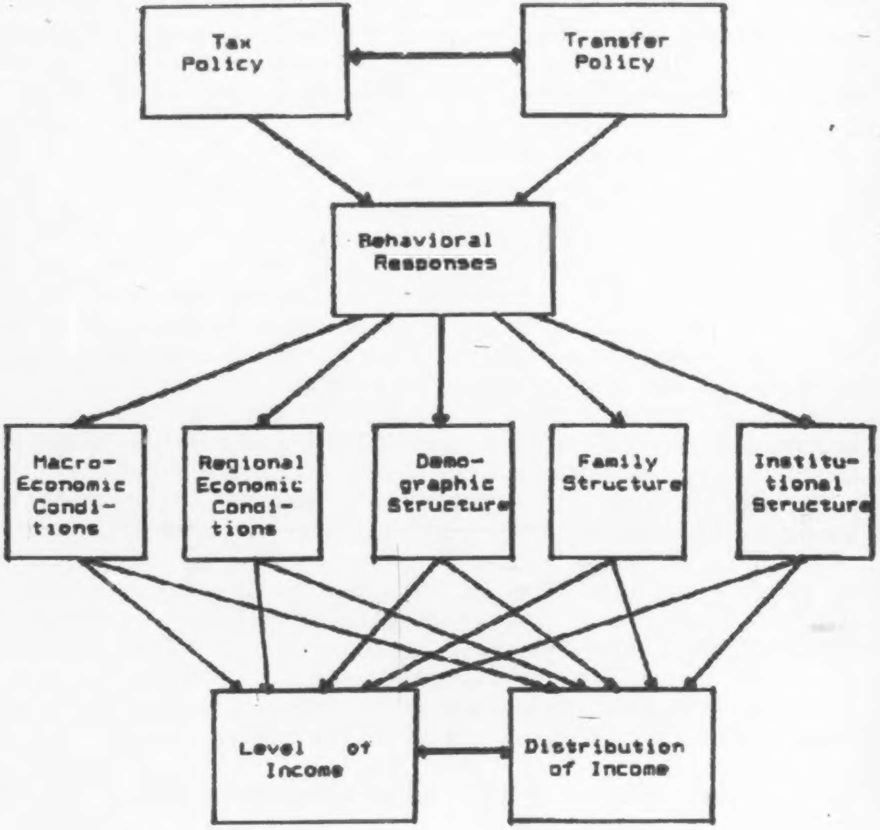
These are our more specific findings. At a broader level, we wish to make some further observations. To begin, it appears to us that the linkage between tax and transfer policies, income growth and income equality may take two general forms. When tax and transfer policies aimed at income redistribution are of a form that provides disincentives for economic activity, they may discourage economic growth while actually producing greater income inequality. However, when policies, especially those involving taxation, produce positive incentives for economic activity, both economic growth and greater equality may emerge. A classic example appears to be the income tax portion of the Tax Reform Act of 1986. What this suggests is that the results of economic policy in the realm of matters of income growth and distribution are not generated in a vacuum. Rather, they are subject to the influences of a wide range of behavioral responses on the part of individuals. It is important that we recognize the role of these responses in determining the effect of public policy on economic growth and patterns of income distribution. Failure to do so may lead us into courses of action that not only reduce the potential for growth, but may produce additional income inequality. Rare indeed are the policy actions that will give us both more growth and less inequality, such as the income tax sections of the Tax Reform Act of 1986.

Finally, we think it is useful, in order to maintain perspective, to keep in mind the levels of income that are involved in the classification of families and income quintiles. In 1987, a family income in excess of $52,910 qualifies for inclusion in the top quintile of the income distribution. This is only about 70 percent above the median family income for that year and even less than that above the mean. So when we talk about this group, as we sometimes do, as somehow representing the rich in American society, there is an element of distortion in our use of the language.

Thank you.

[The chart attached to Mr. Gallaway's statement, together with the report referred to, follows:]

LINKAGES BETWEEN TAX AND TRANSFER POLICY AND THE LEVEL AND DISTRIBUTION OF INCOME


Tax Policy
Transfer Policy
Behavioral Responses
Macro-Economic Conditions
Regional Economic Conditions
Demographic Structure
Family Structure
Institutional Structure
Level of Income
Distribution of Income

THE GROWTH AND DISTRIBUTION OF INCOME IN THE UNITED STATES IN RECENT YEARS: AN OVERVIEW

by

Lowell Gallaway, Richard Vedder, and Roy Boyd

I. Introduction

Judging from its title, the basic purpose of this hearing is to explore the twin phenomena of economic growth and the distribution of income within the United States. This is an especially interesting topic at this juncture in American history, for the post-World War II pattern of movements in various measures of levels of income and the distribution of income exhibit an almost bewildering array of possibilities. At times, average income levels rise consistently while income inequality falls. This is especially true in the interval from 1947 through 1968 (see Table 1.1). However, at other times, as income rises, inequality increases, such as during the periods 1968-1973 and 1981 through 1987. And, between 1973 and 1981, most real income measures show a decline, while the standard index of income concentration, the Gini coefficient, is rising.

Why the seeming lack of regularity in the movements of income levels and the conventional indices of income concentration? There are many answers to that question, largely because of the complexity of the linkage between growth in income levels and patterns of income distribution, compounded by the impacts of the often imperfectly understood consequences of public policy actions. There are two major avenues through which governmental bodies operate to influence the level and distribution of income - taxation and the provision of income maintenance payments, or transfer income, to people. This seems simple enough. However, these apparently straightforward public policy approaches operate through an intricate web of transmission mechanisms that frequently produce effects on both the level and distribution of income that are not only unanticipated but counter-productive of their intended result.

What are these transmission mechanisms? They fall into several broad groups. First, there are those that

TABLE 1.1

REAL MEAN INCOME (1987 DOLLARS) AND INDEX OF INCOME CONCENTRATION, FAMILIES AND UNRELATED INDIVIDUALS, UNITED STATES, 1947-1987

Year	Mean Income		Index of Income Concentration	
	Families	Unrelated Individuals	Families	Unrelated Individuals
1947	$ 18,068	$ 8,086	0.376	0.552
1948	17,352	6,958	0.371	0.489
1949	17,007	7,243	0.378	0.483
1950	18,033	7,492	0.379	0.492
1951	18,351	7,447	0.363	0.482
1952	19,076	8,389	0.368	0.480
1953	19.996	8,766	0.359	0.513
1954	19,831	8,057	0.371	0.508
1955	21,084	8,536	0.363	0.506
1956	22,292	8,907	0.358	0.497
1957	21,940	9,049	0.351	0.489
1958	21,833	8,965	0.354	0.519
1959	23,446	9,212	0.361	0.522
1960	23,874	9,389	0.364	0.506
1961	24,569	9,989	0.374	0.510
1962	25,082	10,217	0.362	0.502
1963	25,983	10,341	0.362	0.500
1964	26,899	11,286	0.361	0.512
1965	27,730	11,488	0.356	0.486
1966	29,407	11,749	0.349	0.484
1967	29,939	12,001	0.348	0.490
1968	31,616	13,071	0.348	0.480
1969	32,761	13,138	0.349	0.481
1970	32,517	13,351	0.354	0.478
1971	32,460	13,379	0.356	0.473
1972	34,318	13,983	0.360	0.478
1973	34,855	14,605	0.356	0.460
1974	33,084	14,373	0.356	0.444
1975	32,791	13,970	0.358	0.442
1976	33,654	14,435	0.359	0.447
1977	34,230	14,938	0.364	0.443
1978	34,981	15,329	0.364	0.443
1979	34,928	13,725	0.365	0.435
1980	33,041	14,905	0.365	0.435
1981	32,284	14,977	0.370	0.444
1982	32,239	15,254	0.381	0.443
1983	32,869	15,838	0.382	0.451
1984	33,967	16,066	0.383	0.445
1985	34,807	16,381	0.389	0.443
1986	36,104	16,609	0.392	0.450
1987	36,568	16,872	0.392	0.451

SOURCE: Money Income of Households, Families and Persons in the United States: 1987, U. S. Department of Commerce, Bureau of the Census, Series P-60, Tables 12 and A-1 and calculations.

reflect the behavioral responses of the public to governmental policy initiatives. When public policy in the realm of taxation and income transfers is adjusted in a manner that changes the circumstances affecting the daily economic life of individual citizens, some type of behavioral response to those altered conditions will occur. Not that it is easy to determine what those responses will be. Nevertheless, it must be recognized that they exist.

Whatever the nature of the behavioral responses to a new departure in public policy, there will be an impact at a second level on various factors that are important determinants of overall patterns of income growth and distribution. For example, there are those elements of our economic life that are part and parcel of the various dimensions of the general economic milieu, phenomena such as unemployment, inflation, and the general level of productivity of inputs into the productive process. These are all affected by the complex of individual behavioral responses that, in particular, alter the intensity of utilization of various resources. In turn, changes in these important determinants of the overall state of the economy affect both the level and distribution of income.

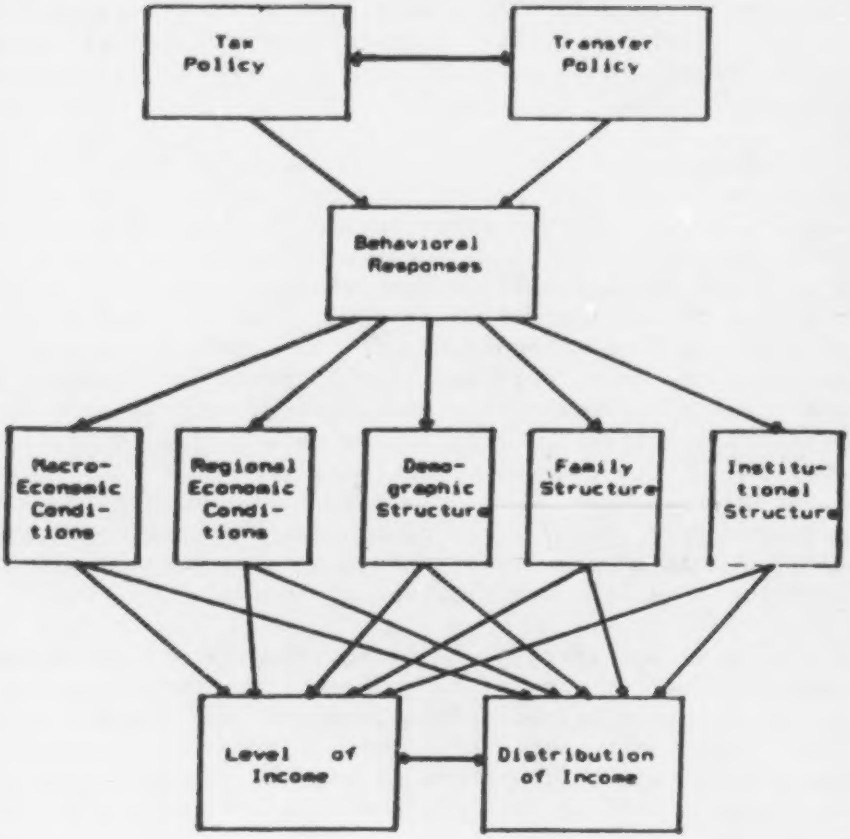
There is more. Shifting demographic patterns, regional variations in economic performance, and changing institutional structures, at one and the same time, are affected by the previously described behavioral responses induced by changes in public policy while also altering the nature and character of the public policy outcomes.

To suggest the overall complexity of the factors impacting on both the level of income and its distribution, the schematic diagram shown in Figure 1.1 has been constructed. It illustrates how public policy decisions of a tax and transfer type are filtered through a series of behavioral responses which, in turn, translate into a wide range of observed changes of a macroeconomic, regional, demographic, and institutional structure nature.

As noted earlier, the multiplicity of these relationships makes the problem of assessing the interplay between the level of income and its distribution a difficult one. However, we are not

FIGURE 1.1

LINKAGES BETWEEN TAX AND TRANSFER POLICY AND THE LEVEL AND DISTRIBUTION OF INCOME


Tax Policy
Transfer Policy
Behavioral Responses
Macro-Economic Condi-tions
Regional Economic Condi-tions
Demo-graphic Structure
Family Structure
Institu-tional Structure
Level of Income
Distribution of Income

without evidence and insights relating to individual parts of this process. These will be discussed in subsequent portions of this text, beginning with an overview of the behavior over time of aggregate measures of economic inequality in response to changes in tax and transfer policies and macroeconomic conditions in the United States. This will be followed by treatments of (1) the role and importance of differences in regional responses to various economic conditions and public policy initiatives; (2) the significance of certain demographic movements, such as changes in the relative importance of particular population sub-groups in the economy; and (3) the part played by various institutional and social forces in shaping the emerging pattern of distributional equality in the United States.

Following these discussions, we will assess the impact of shifting the discussion of inequality away from a simple concentration on the concept of income and toward evaluating the relative position of different segments of society in terms of their capacity to command the goods and services that are available in the United States. Put more simply, we will examine the question of the degree of inequality in the availability of consumption goods among American citizens.

Finally, we will conclude our overview of the relationship between the level and distribution of income in the United States by offering two assessments of the impact of recent public policy of a tax and transfer type on the level and distribution of income. The first relies on data developed by the Bureau of the Census which describes, in an accounting style fashion, the effects, by income quintile, of several types of taxes and transfers on the income levels of households. The second is more dynamic in character and, utilizing a general equilibrium model of the American economy, traces through the distributional and growth impacts of the most recent major public policy undertaking in the realm of tax and transfer policies, the Tax Reform Act (TRA) of 1986. From these discussions, it should be possible to draw some basic conclusions regarding the nature of the interplay between levels of economic activity and the distribution of income in the United States.

II. Inequality and Income Levels Over Time

Simon Kuznets once offered the hypothesis that higher levels of overall income in a society are associated systematically with lesser inequality in the distribution of income.[1] A visual inspection of the data shown in Table 1.1 seems to suggest that the Kuznets hypothesis has not worked especially well in the United States since the end of World War II. However, that hypothesis is couched in terms of "everything else being equal," a condition that is rarely satisfied in actual circumstances. In particular, in the post-World War II era in the United States, there have been dramatic shifts in public policy of the tax and transfer type aimed at altering distributional outcomes. Table 2.1 contains data which describe the growth in taxes and income transfers in the United States in this period. Clearly, there has been a substantial escalation in the volume of tax financed transfer income.

How might the rise in the volume of income transfers in the United States have affected the observed relationship between levels of income and the degree of equality in its distribution? There are alternative views on this matter. On the one hand, conventional wisdom has long held that public policy changes of this sort work to reduce income inequality or that, at least, they have the real capability of achieving that end.[2] For example, even before the post-World War II era, during the 1930's and 1940's, the evidence is strong that there was a pronounced decline in measured inequality. This was a period of greatly increased governmental intervention on both the tax and

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[1] Simon Kuznets, "Economic Growth and Income Inequality," American Economic Review, March 1955, pp. 1-28.

[2] For a statement of this position, see Lester Thurow, "The Income Distribution as a Pure Public Good," Quarterly Journal of Economics, May 1971, pp. 327-336.

TABLE 2.1

GOVERNMENT REVENUE AND TRANSFER PAYMENTS, TOTAL (BILLIONS OF DOLLARS) AND AS PERCENTAGE OF GROSS NATIONAL PRODUCT (GNP), UNITED STATES, 1947-1987

	Government Revenues		Government Transfer Payments	
Year	Total	As % of GNP	Total	As % of GNP
1947	57.8	24.6	13.1	5.6
1948	59.6	22.8	14.5	5.5
1949	56.6	21.7	16.9	6.5
1950	69.4	24.1	18.0	6.2
1951	85.6	25.7	14.8	4.4
1952	90.5	25.7	14.3	4.1
1953	95.0	25.6	15.1	4.1
1954	90.4	24.3	17.1	4.6
1955	101.6	25.0	18.5	4.6
1956	110.2	25.7	19.4	4.5
1957	116.7	25.9	22.2	4.9
1958	115.7	25.3	26.5	5.8
1959	130.3	26.3	27.6	5.6
1960	140.4	27.2	29.4	5.7
1961	145.9	27.3	33.7	6.3
1962	157.9	27.5	34.8	6.1
1963	169.8	28.0	36.8	6.1
1964	175.6	27.0	38.3	5.9
1965	190.2	27.0	41.3	5.9
1966	214.4	27.8	46.0	6.0
1967	230.8	28.3	54.7	6.7
1968	266.2	29.8	62.9	7.0
1969	300.1	31.1	69.7	7.2
1970	306.8	30.2	84.1	8.3
1971	327.3	29.7	99.8	9.1
1972	374.0	30.8	111.3	9.2
1973	419.0	30.9	127.0	9.3
1974	463.1	31.4	150.9	10.2
1975	480.0	30.0	189.6	11.9
1976	549.1	30.8	207.2	11.6
1977	616.6	31.0	221.6	11.1
1978	694.4	30.9	239.5	10.6
1979	779.8	31.1	268.0	10.7
1980	855.1	31.3	319.2	11.7
1981	977.2	32.0	362.2	11.9
1982	1,000.8	31.6	404.0	12.8
1983	1,061.3	31.2	435.1	12.8
1984	1,172.9	31.1	448.7	11.9
1985	1,270.8	31.7	481.2	12.0
1986	1,344.6	31.7	510.0	12.0
1987	1,469.5	32.5	532.8	11.8

SOURCE: Tables B-1 and B-8, *Economic Report of the President* (Washington, D. C.: U. S. Government Printing Office, January 1989).

expenditure side designed to reduce inequality.[3] Increased government expenditures went, or so it was argued, largely to alleviate the plight of the poor and, thus, greater federal public aid expenditures brought about greater equality. Similarly, it commonly has been maintained that higher and more progressive federal taxes serve to further reduce inequality in America.

There is another position, however, which holds that governmental intervention in markets may have a different impact. While he believes the modern welfare state has clearly reduced incomes for the extremely wealthy, Gordon Tullock has suggested that many government transfers are not transfers from higher to lower income groups, but rather transfers within the middle class, allowing at least the possibility that governmental transfer activity might not in the aggregate increase income equality in any significant manner.[4] Perhaps the citizenry are interested in promoting income equality, but only to some limited extent. In that regard, evidence compiled by Stanley Lebergott is interesting: Since the mid-nineteenth century, there has been a remarkable rough constancy in government payment levels to the poor, relative to wage levels of common laborers.[5] To be sure, there have been some periods of increased support for the poor, such as during the heyday of the War on Poverty, but, as Tullock has expressed to us in private correspondence, "the body politic has spasms of feeling more than usually charitable, and then goes back to normal."

The conventional wisdom on this matter had previously been questioned by Morgan Reynolds and Eugene Smolensky and, for that matter, by Frederic Bastiat, who said that the state, "produces more poverty than it cures."[6] Along similar lines, Lebergott, speaking of poor elderly Americans, observed, "they are not impoverished in spite of the American capitalist welfare state. They are in poverty because of it."[7]

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[3] For details, see Peter H. Lindert and Jeffrey G. Williamson, American Inequality: A Macroeconomic History (New York: Academic Press, 1980).

[4] Gordon Tullock, Economics of Income Redistribution (Boston: Kluwer-Nijhoff, 1983).

[5] Stanley Lebergott, Wealth and Want (Princeton: Princeton University Press, 1975).

At least four arguments have been advanced in support of the hypothesis that there might be no strong systematic relationship (or even, as Bastiat suggests, a positive relationship) between the level of governmental activity and the overall amount of income inequality. In general, these embody the behavioral responses to public policy discussed earlier and the variety of arguments that have been offered suggests the immense range of possibilities in this respect.

First, there is the important public choice insight that relatively high income rent-seekers may successfully direct public policies toward distributing income to themselves instead of the poor.[8] As Mancur Olson, and others, have pointed out, it is clear that not all rent-seeking distributional coalitions are made up of poor people or legitimate advocates.[9] Chrysler stockholders, unionized steelworkers, Public Broadcast System televiewers, and most Iowa grain farmers are not generally "low income" by any rational definition of that term.

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[6] Frederic Bastiat, *Selective Essays on Political Economy* (1848). Reprinted in 1964 by Foundation for Economic Education; Irvington-on-Hudson.

[7] *Op. cit.*, p. 15.

[8] See Gordon Tullock, "Charity of the Uncharitable," *Public Choice*. December 1971; Tullock, *Economics of Income Redistribution*, *op. cit.*; George Stigler, "Director's Law of Public Income Redistribution," *Journal of Law and Economics*, April 1970; J. J. Cordes, R. S. Goldfarb, and H. A. Watson, "The Relative Efficiency of Private and Public Transfers," *Public Choice*, Vol. 49, No. 1; and James Gwartney and Richard Stroup, "Transfers, Inequality and the Limits of Public Policy," *Cato Journal*, Spring/Summer 1986.

[9] Mancur Olson, *The Rise and Decline of Nations* (New Haven: Yale University Press, 1982); R. McCormick and R. Tollison, *Politicians, Legislation and the Economy: An Inquiry into the Interest Group Theory of Government* (Boston: Martinus-Nijhoff, 1981); and Ann Krueger, "The Political Economy of the Rent-Seeking

Motives aside, there are good supply side arguments to suggest that governmental redistribution efforts might lead to reduced work effort and that leisure-work substitution reaches a point that transfer activities lead increasing numbers of of persons to "choose" to be poor.[10] This is in addition to the deleterious impact that distributional coalitions might have on the growth in income.[11]

Third, increased public transfer payments may crowd out private charity for the poor.[12] Fourth, market adjustments serve to offset many governmental transfer activities. [13] For example, the farm program may provide what Tullock has termed "transitional transfers" to farmers, but in the long run subsidy payments get capitalized in land and other prices and agriculture maintains its long run competitive rate of return (zero

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Society." American Economic Review, June 1974.

[10] See Bastiat, op. cit.; Charles Murray, Losing Ground: American Social Policy 1950-1980 (New York: Academic Press, 1984); and Lowell Gallaway and Richard Vedder, Poverty, Income Distribution, the Family and Public Policy (Washington, D. C.: Joint Economic Committee of Congress, U. S. Government Printing Office, 1986).

[11] Olson, op. cit., and Richard Vedder and Lowell Gallaway, "Rent-seeking, Distributional Coalitions, Taxes, Relative Prices and Economic Growth," Public Choice, vol. 51, no. 1, 1986.

[12] See B. A. Abrams and M. Schmitz, "The Crowding-out Effect of Governmental Transfers on Private Charitable Contributions: Cross-Section Evidence," National Tax Journal, December 1984, and Gallaway and Vedder, Poverty, Income Distribution ...., op. cit.

[13] See Gwartney and Stroup, op. cit.

economic profits).[14] High taxes on capital or labor income may reduce the quantities of capital or labor supplied, ultimately leading to higher equilibrium remuneration for the use of these resources. Before tax incomes rise in response to higher rates of taxation, in part nullifying the intent of progressive taxation.

In another analysis, we have conducted an empirical examination of the relationship between governmental expenditure levels (particularly in the form of explicit income transfers targeted for the disadvantaged), tax activity, unemployment, and the rate of growth in national output, on the one hand, and the degree of income inequality on the other.[15] Using time series data for the post-World War II era, we reach the following conclusions:

> 1. The conventional view that Federal government tax and expenditure programs serve to reduce income inequality holds when and where tax and expenditure activities are comparatively small in magnitude.
>
> 2. As Federal government taxes and transfer payments grow, a threshold is is reached, beyond which increased governmental activities, as measured by taxes or explicit income transfers, lead to more, rather than less inequality.
>
> 3. The evidence seems broadly consistent with the view that there are clear limits as to the extent that income patterns deviate substantially from a "natural" distribution that would exist in the absence of a large government, at least in an institutional setting like that of the United States.

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[14] Gordon Tullock, "Transitional Gains and Transfers," Cato Journal, Spring/Summer 1986.

[15] Richard Vedder, Lowell Gallaway, and David Sollars, "The Tullock-Bastiat Hypothesis, Inequality-Transfer Curve and the Natural Distribution of Income," Public Choice, Vol. 56, No. 3, 1988.

4. After controlling for the impact of levels of unemployment and Federal government tax and income transfer activities, higher rates of inequality are associated with higher rates of growth of national output.

These are interesting conclusions. To begin, they are inconsistent with two extreme views of the impact of government policy. The first is that governmental intervention can achieve any desired result; the second is that governmental involvement in the economy is totally ineffective in achieving policy targets. The results described here are more consistent with a third view, namely, that public policy affects economic phenomena, but only to a limited extent. Despite a sizable growth in the scope of government activity during the post-World War II period, the impact on income distribution has been limited, in large part because governmental efforts have been offset by altered private behavior. All of this suggests that there are limits to the role of government as an instrument of income redistribution.

In addition, there is the conclusion that, holding tax and income transfer activities constant, the relationship between economic inequality and economic growth is a positive one. This suggests that a successful attempt to redistribute income to the poor runs the risk of slowing the overall rate of growth in income. How these combined effects sort themselves out must remain problematical, at least for the moment. However, it is not clear that income redistribution in favor of those at the lower end of the income distribution necessarily means a higher standard of living for those to which income is being redirected.

III. Geographic Dimensions of American Income Distribution

The observed disparities in the distribution of income in the United States in part reflect regional differences in economic development. Indeed, the national distribution of income, as measured by a statistic such as the Gini coefficient, can be said to result from two factors: income inequality between geographic areas, which we will call geographic inequality, and inequality observed within geographic areas, which might be viewed as adjusted or "core" inequality.

To illustrate in a simple fashion, suppose there are just two areas in the nation, which we will call East and West. Suppose within each region, every family has exactly the same income, but that income is twice as high in the East as in the West. For the nation as a whole, there would be measured income inequality, even though most Americans would perceive themselves as having exactly the same income as their neighbors and friends. This is geographic inequality. Suppose, however, that both East and West have exactly the same average income levels, but that there are differences in income within each area. The observed inequality would be what we term core inequality.

Measured national inequality can rise over time even though core inequality remains unchanged, that is to say the Gini coefficient measuring inequality within each individual state is unchanged. For example, suppose that, in 1980, per capita income was the same in the East and West, but over the next decade economic growth were higher in the West, so that in 1990 real income on the average is higher in that region. Even if intraregional inequality remained unchanged, reported total inequality would rise because of differential economic growth (geographic inequality). Put simply: TOTAL INEQUALITY = GEOGRAPHIC INEQUALITY + CORE INEQUALITY

Changing Trends in Geographic Inequality

Over time, incomes in lower income states have tended to grow faster than in higher income ones, reducing interstate economic differences. In 1929, the highest per capita income state, New York, had a little less than four times the income of Misssissippi, the poorest state. By 1970, the highest income state had less than double the income of the lowest income one.[16]

This long term trend is consistent with the theorizing of economists. Workers in low income (low wage) areas seeking to improve their economic position will tend to move to higher income locales.[17] Similarly, owners of capital (firms) seeking to maximize profits will tend to shift resources (e.g., build new plants) in areas where labor costs are low. Thus, over time, capital flows to the low income areas from higher income ones, while labor flows to higher income areas from low income places. Thus, the amount of capital per worker (the capital-labor ratio) tends to grow in lower income areas relative to higher income ones, increasing productivity and growth more in the poorer areas.[18]

With this in mind, it is possible to measure geographic inequality, using the standard device of the Gini coefficient, simply by treating states (and the District of Columbia) as individual observations and using per capita personal income as the indicator of income. Figure 3.1 shows that geographic inequality fell sharply from 1950 to 1980, declining in every decade. After 1980, however, there was a significant rise in observed geographic inequality, reversing a long-run historical trend, seemingly in defiance of economic theory.

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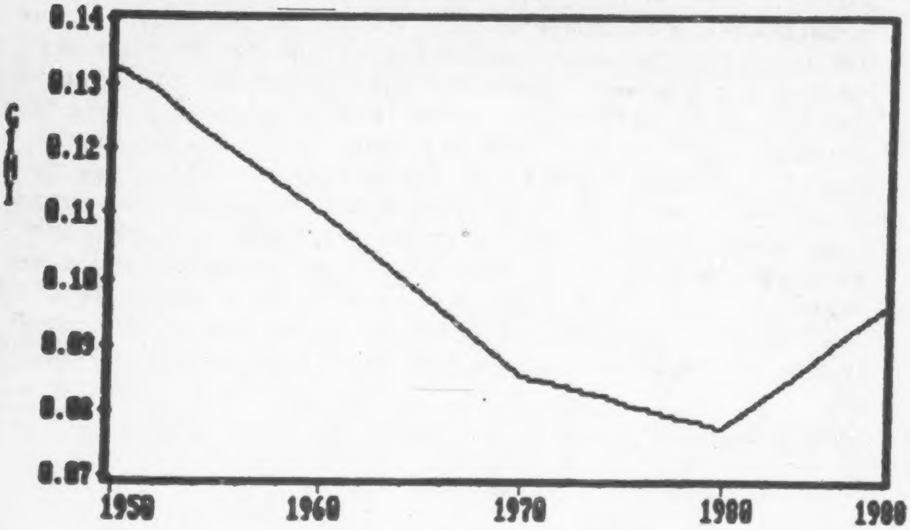
[16] For income statistics up to 1900, see Richard Easterlin, "Interregional Income Differences, 1840-1900," in William N. Parker, ed., Trends in the American Economy in the Nineteenth Century (Princeton, N.J.: Princeton University Press for the National Bureau of Economic Research, 1960). For data for 1929 to 1970, see U. S. Bureau of Commerce, Historical Statistics of the United States, Colonial Times to 1970 (Washington, D.C.: Government Printing Office, 1975.)

[17] For a statistical analysis confirming this, historically, see our "The Mobility of Native Americans, Journal of Economic History, September 1971.

[18] For a more elaborate theoretical exposition, see Paul A. Samuelson, "International Trade and the Equalisation of Factor Prices," Economic Journal, June 194

Change in the Geographic Gini Coefficient, U.S., 1950 to 1988



It is beyond the scope of this paper to try to explain this phenomenon, yet is very important to our understanding of contemporary trends in American income distribution. We would suggest that one factor that very well might play an important role is the abrupt relative decline in the 1980's in the prices of mineral products, notably petroleum, natural gas and coal. Energy-exporting states have found the prices that they pay for goods imported from other states (or nations) have risen relative to the prices received for their oil and other exports, leading to a deterioration in relative income position. By contrast, energy-importing states (e.g., most of the Northeast), generally having high income levels to begin with, have had very high income growth.

Core Inequality

Core inequality is the residual inequality after account is taken of variations in economic growth between states.[19] It reflects variation in income levels within individual states. Table 3.1 shows changes in total measured inequality (using the Gini coefficient as calculated by the U. S. Bureau of the Census), geographic inequality, and core inequality for various periods. The observed geographic inequality Gini coefficient is based on per capita income statistics, whereas the observed aggregate Ginis are for family units. It is assumed the observed interstate income differentials per capita translate into equivalent differences with respect to family income.

The results are striking. Overall, observed inequality fell in the 1950's and 1960's, but the decline was entirely explained by declining interstate income differentials (geographic inequality). In fact, intrastate differentials appear to have risen, more so in the 1960's than the 1950's.

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[19] It is possible, of course, to further refine the concept of core inequality to take account of other phenomena. For example, it certainly would be appropriate also to adjust the conventional measure of income concentration to correct for the impact of the age distribution—of the population, as suggested by Morton Paglin. See his, "The Measurement and Trend of Inequality: A Basic Revision," American Economic Review, September 1975.

TABLE 3.1

TOTAL, GEOGRAPHIC AND "CORE" INEQUALITY FOR FAMILIES, 1950-87: GINI COEFFICIENTS AND THEIR CHANGE

Year	Gini Coefficients:			Change in Gini "Basis Points" from Previous Date:*		
	Total	Geographic	Core	Total	Geographic	Core
1950	.379	.133	.246	n.a	n.a	n.a.
1960	.364	.110	.254	-15	-23	+ 8
1970	.354	.085	.269	-10	-25	+15
1980	.365	.077	.288	+11	-8	+19
1987	.392	.092	.300	+27	+15	+12

*A basis point equals .001.

SOURCE: Authors' calculations from U.S. Department of Commerce estimates of per capita income by state, as well as Current Population Reports, P-60, No. 162, *Money Income of Households, Families and Persons in the United States: 1987*.

In the 1970's, overall inequality rose, reversing the trend of the 1950's and 1960's. This trend in part reflected rising core (intrastate) inequality, in part a diminishing in the move towards greater interstate inequality (which continued to a modest extent). In the 1980's, measured total inequality has clearly grown faster than in the 1970's, but the rise in inequality since 1980 is entirely explainable in terms of a reversal of the historic trend towards interstate income equality. "Core (intrastate) inequality has been rising in the 1980's at a rate not dramatically different than in the 1960's or 1970's.

While the reasons behind the rising geographic inequality in the 1980's are not clear, it is doubtful that the observed trend will continue for much longer. As in the past, market forces can be expected to reduce or eliminate recent increased differentials arising from temporary shocks to the economy, such as abrupt changes in relative prices of imported and exported goods. If we are correct, the rate of increase in measured inequality should begin to decline within a few years (geographic inequality, however, rose again in 1988 by over three basis points).

Interstate Variations in Core Inequality

About three-quarters of the measured inequality in family incomes in the United States seems to be attributable to intrastate variations in income levels, or so-called "core" inequality. It is interesting to note that core inequality varies substantially between states, as indicated in Table 3.2, based on state Gini coefficients for families generated from the Current Population Survey for calendar year 1986.[20] Note that the reported Gini coefficients vary dramatically, being some 45 percent higher in the District of Columbia than in the state of New Hampshire.

Individual year Gini coefficients for each state must be viewed with caution, since the sample size used

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[20] The calculations of state Gini coefficients was performed by Aaron Leatherwood as part of his undergraduate honors thesis at Ohio University entitled "A Detailed Assessment of Income Inequality in America, 1980-1986."

TABLE 3.2

GINI COEFFICIENTS FOR FAMILY INCOME BY STATE, 1986

State	Gini Coefficient		Gini Coefficient
Alabama	0.431	New Hampshire	0.314
Alaska	0.403	New Jersey	0.364
Arizona	0.389	New Mexico	0.406
Arkansas	0.398	New York	0.410
California	0.389	North Carolina	0.375
Colorado	0.396	North Dakota	0.379
Connecticut	0.369	Ohio	0.365
Delaware	0.375	Oklahoma	0.389
District of Columbia	0.453	Oregon	0.358
Florida	0.392	Pennsylvania	0.358
Georgia	0.403	Rhode Island	0.347
Hawaii	0.350	South Carolina	0.408
Idaho	0.371	South Dakota	0.377
Illinois	0.373	Tennessee	0.387
Indiana	0.341	Texas	0.418
Iowa	0.357	Utah	0.343
Kansas	0.346	Vermont	0.352
Kentucky	0.392	Virginia	0.373
Louisiana	0.446	Washington	0.387
Maine	0.367	West Virginia	0.408
Maryland	0.391	Wisconsin	0.360
Massachusetts	0.370	Wyoming	0.361
Michigan	0.378		
Minnesota	0.385		
Mississippi	0.415		
Missouri	0.376		
Montana	0.388		
Nebraska	0.371		
Nevada	0.362		

SOURCE: Aaron Leatherwood, "A Detailed Assessment of Income Inequality in America, 1980-1986." Undergraduate Honors Thesis, Ohio University, 1989.

in deriving the state Ginis is relatively small, often well under 500 observations. It is possible for reported year-to-year variations in the reported Ginis for an indvidual state to be spurious owing to sampling error. However, when consistency in state Gini coefficients is noted over several years, or when one speaks of the state Ginis for the entire sample of states, the possibility of statistical error is reduced.

The intrastate Ginis (measuring core inequality) rise over time, consistent with Table 3.1. Interestingly, however, the variation in state Gini coefficients declines somewhat from 1980 to 1986, reflecting a decrease in the coefficient of variation for the mean of the 51 observed Ginis. While both geographic inequality and within-state or core inequality are growing in the 1980's, at least geographic variations in core inequality have declined somewhat over time.

Explaining variations in the Ginis reported in Table 3.2 can help us in our understanding of the growth in core inequality over time. While a comprehensive assessment of this issue is beyond the scope of this study, an ordinary least squares regression model was developed to explain changes in the state Gini coefficients between 1980 and 1986. The regression results are consistent with the following:

1) there is a positive association between levels of unemployment and increases in core inequality;

2) state government public assistance expenditures per recipient (as measured by AFDC payments) are positively related to increases in observed inequality;

3) government taxation and increases in inequality are positively related;

4) the greater the observed intrastate inequality in 1980, the smaller the growth in inequality, 1980-86;

5) states with higher economic growth, other things equal, had a greater growth in inequality.

The findings suggest that part of the rise in core inequality from 1950 to the present may reflect an increase in observed unemployment associated with a rise in the natural rate of unemployment. Government expenditure and tax policies seem to not be associated with reduced or low inequality; it raises the possibility that such policies may sometimes increase inequality rather than reduce it.[21] The results support the view that there has been some convergence in the rates of intrastate inequality, and that there may be some growth-equity tradeoffs that must be considered in formulating policy. While these conclusions are tentative and based on limited data, they do call into question the conventional view that the rise in inequality in the 1980's reflects governmental tax and spending reductions.

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[21] We have developed this argument extensively elsewhere. See, for example, "Poverty, Income Distribution, the Family, and Public Policy," Study for the Joint Economic Committee of Congress (Washington, D.C.: Government Printing Office, 1986), and "The Tullock-Bastiat Hypothesis, Inequality-Transfer Curve ....," op. cit.

IV. The Impact of Family Structure on Income Inequality

There have been important changes in the composition of living arrangements of Americans in the past three decades. As Table 4.1 indicates, an increasing proportion of the population lives outside families as "unrelated individuals."

The implications for income distribution of the shift in population from family to non-family units is potentially important considering differences in income between and among both groups. If everyone lived in a family, the total national income distribution could be represented by the Gini for family income; if all persons were "unrelated individuals", the Gini for that group would be the same as for the entire national income distribution. An approximation of a total or aggregate income distribution for the total population can be obtained by weighting the Gini coefficient for each group according to its share in the population, and then averaging them. This is done in Table 4.2.

Note that the Gini cofficient within the category of "unrelated individuals" is considerably greater than that among family members. An increase in the proportion of unrelated individuals over time would, then, tend to raise the weighted Gini. Offsetting this, however, is the fact that over time the Gini for unrelated individuals has generally fallen, while that for families has generally risen. These factors exactly offset one another over the whole period, so the observed trend for the Gini coefficient for family income is generally the trend observed for some aggregate measure of the population.

This is not to say that changing family structure has made no difference. Within families, there has been a pronounced increase in female-headed households, and these units tend to have very low income. For example, in 1986, the average income of families with a female householder, no male present, was well under half that for married couple families. Moreover, within married couple families, income was far more evenly distributed (Gini coefficient =.362) than among the single parent

TABLE 4.1

U. S. POPULATION LIVING IN FAMILY AND NONFAMILY UNITS, 1950-88

Year	Total Resident Pop.*	Number of Families	Family Status of Pop. Inside Families	Outside Families	% of Pop. Living Outside Families
1950	151,868	39,303	139,133	12,735	8.39
1960	179,979	41,951	150,604	14,465	8.76
1970	203,984	51,586	184,678	19,316	9.47
1975	215,465	55,712	190,535	24,930	11.57
1980	227,236	59,550	195,920	31,316	13.78
1985	238,291	62,706	202,540	35,751	15.00
1988	245,606+	65,133	206,667	38,939	15.85

*All numbers except percentages are in thousands. Family statistics are as March 1, while total population is as of July 1, a procedure that slightly overstates the number of percent outside families.

+Partly estimated.

TABLE 4.2

FAMILY,UNRELATED INDIVIDUAL AND TOTAL GINI COEFFICIENTS, 1950-1987

Year	Family Gini	Unrelated Individual Gini	Weighted* Total Gini
1950	.379	.492	.388
1960	.364	.506	.376
1970	.354	.478	.366
1975	.358	.442	.368
1980	.365	.435	.375
1985	.389	.443	.397
1987	.392	.451	.401

*Weighted by population in each group, as derived from Table 3-1.

SOURCE: Authors' calculations from Current Population Survey, U.S. Department of Commerce, data.

female families (Gini coefficient = .441).[22] Thus, the tendency for family Gini coefficients to rise over time likely reflects not only the relatively low income of the increasingly observed female headed families, but also income disparity within such households that is relatively high.

Aside from the fact that 31 percent of Americans now live outside traditional married couple families (up from less than 20 percent as late as 1970), the size of households has tended to become smaller. Average income levels tend to vary with family size, as does income disparity around those averages (Figure 4.1). The reported Gini coefficients are for 1986, while family income figures are for 1987.

Note that the four person family is "optimal" both from the standpoint of high average income *and* from the standpoint of least income dispersion. Also observe that both small and large families tend to have smaller income and greater variation in that income. Thus the move away from the four person family over time has potentially had a significant impact on observed inequality in family incomes. Mean family size has declined from 3.54 to 3.21 since 1950, while mean household size has declined even more, from 3.37 in 1950 to 2.64 in 1987, a fall of 22 percent. An increasing proportion of living units are below the four person "optimum." While it is conceivable there may be other, offsetting factors, the possibility would appear to be good that changing family size is a major determinant of the rise in observed family income inequality over time.

Income Distribution in Married Couple Families

Perhaps the most important single labor market development in twentieth century America has been the dramatic increase in the rate of labor force participation by females. While the increase has been observed for all age groups except those over 65, it is particularly pronounced among women 25-34 years old, as shown in Figure 4.2. Rather than having a pronounced reduction in labor force participation in that age range, women today, in their late twenties and early thirties, tend to work as much as virtually any other

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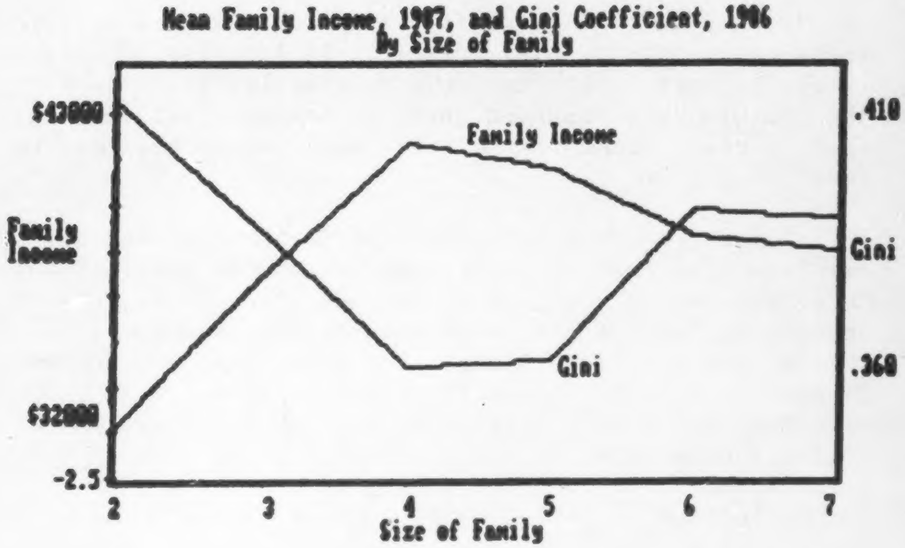
[22] Leatherwood, *op. cit.*, p. 85.

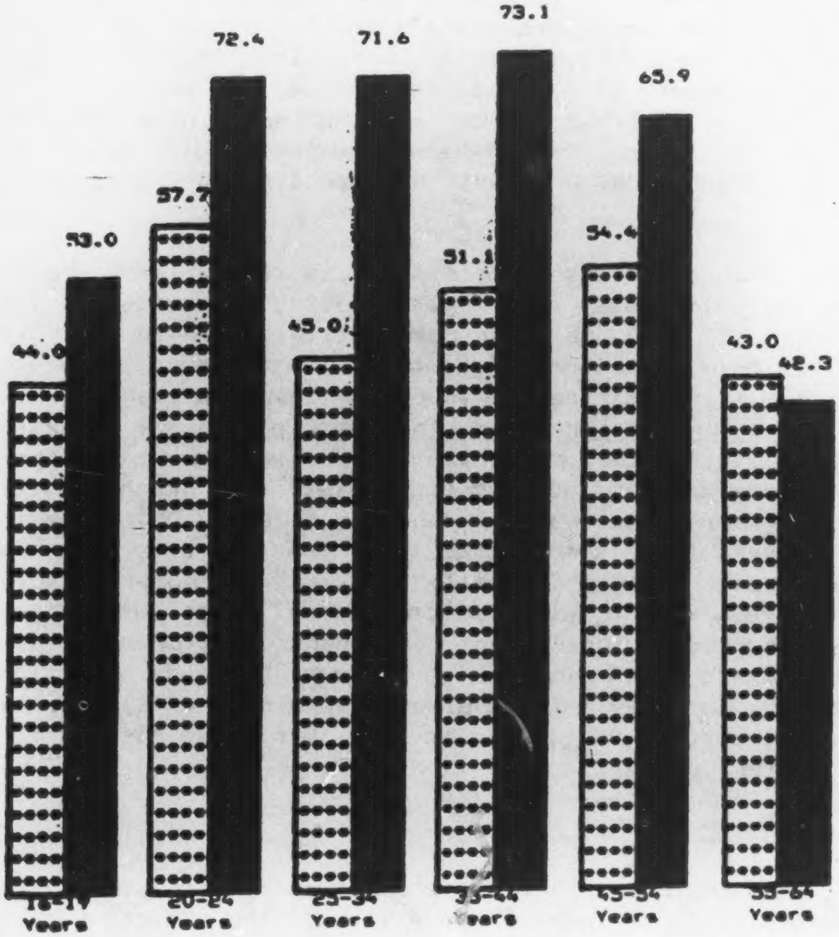


Mean Family Income, 1987, and Gini Coefficient, 1986
By Size of Family

FIGURE 4.1

FIGURE 4.2

FEMALE LABOR FORCE PARTICIPATION RATES BY AGE, 1970 AND 1986
(ASTERIKS=1970; SOLID BARS=1986)



group of women. Childbearing no longer appears to be a significant barrier to work.

What are the implications of this major labor market development for income distribution? To begin, incomes tend to be dramatically higher in married couple families where both spouses work. In 1987, the median family income of married couple families with the wife in the paid labor force was $40,422, more than 50 percent higher than where the wife did not work ($26,652). Moreover, that differential has grown over time.

One important development is that labor force participation has risen particularly dramatically for wives of husbands with comparatively high incomes. In 1987, more than two-thirds of all married couple wives with husbands making $ 50,000 to $ 75,000 a year worked, a higher proportion than for married couple families generally.[83] The proportion of women working whose husbands made $50,000-$75,000 a year was much greater than for women whose husbands made $10,000 or less. Moreover, that is more true today than it once was: the relatively well-to-do-family today is much more likely to have a working wife, adding to family affluence, than even a decade ago; labor force participation has risen more among women with high income husbands than for women generally. This almost certainly has materially contributed to the rise in the Gini coefficient for families.

Conclusions

As indicated in the introduction to this study, the determinants of income inequality in the United States are complex. That is very apparent when one attempts to assess the impact of changing living and work arrangements within the American household. There is considerable circumstantial evidence that the reduction in the relative importance of the traditional married couple family, the reduction in family size, and the increased attachment of upper middle class women to the labor force have all added to inequality, although certainly far more research needs to be done. Factors leading to divorce, separation, higher female labor force participation, reduced fertility and other socioeconomic phenomena are certainly of some relevance in any analysis of income distribution in contemporary America.

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[83] U.S. Department of Commerce, Bureau of the Census, Current Population Reports, Series P-60, No. 162, Money Income of Households, Families and Persons in the United States: 1987 (Washington, D.C.: Government Printing Office, 1989), p.86.

V. An Alternative Way of Evaluating Inequality

Traditionally, in the United States income inequality is measured through the use of money income data. This is not the only way in which this issue can be approached. For example, in some countries, India, for example, poverty status is determined by the use of information describing levels of consumption spending rather than levels of income.[24] The same could be done for the United States. Consumer expenditure data are available from the Consumer Expenditure Survey (CES) of the Bureau of Labor Statistics for income quintiles.[25] These permit an evaluation of the gap in living standards between those at the bottom of the income distribution and the remainder of society. It is useful to express these differences in dollars of spending by those outside the bottom quintile per dollar of spending by those in the bottom quintile.

The 1986 survey data, based on over 27,000 interviews, show that spending per consumer unit (household) among the the top quintile) of the CES income distribution amounts to $ 3.90 for every dollar spent by members of the bottom quintile - $43,853 at the top and $ 11,252 at the bottom. See Table 5.1. Contrast this with the over 16-fold difference in income between those two groups in the CES data and the 9.5 ratio of income in the top quintile to income in the bottom quintile reported for families in 1986 by the Current Population Survey. Clearly, money income differentials translate quite imperfectly into differences in access to consumer goods.

There are a variety of reasons for the greater equality in consumer expenditures than in income. In general, people base consumer spending on the income

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[24] For details of the definition of poverty in India, see B. S. Minhas, L. R. Jain, S. M. Kansal, and M. R. Saluja, "On the Choice of Appropriate Consumer Prices Indices and Data Sets for Estimating the Incidence of Poverty in India," Indian Economic Review, January-June 1987.

[25] "Consumer Expenditure Survey Results for 1986," Bureau of Labor Statistics, USDL: 88-175, April 14, 1988.

Table 5.1

CONSUMER SPENDING PER DOLLAR SPENT BY BOTTOM
QUINTILE OF INCOME DISTRIBUTION,
UNITED STATES, 1986

Category of Spending	Spending by Top Quintile	Spending by Middle Quintile
All Consumer Spending	$ 3.90	$ 1.76
Consumer Spending Per Person	$ 2.31	$ 1.29
Current Consumer Spending Per Person	$ 2.03	$ 1.21
Basic Consumer Spending Per Person	$ 1.82	$ 1.14

Source: "Consumer Expenditure Survey Results for 1986," Bureau of Labor Statistics, USDL: 88-175, April 14, 1988, and authors' calculations.

they expect to have under normal conditions, what economists call "permanent income."[26] When income moves sharply below what is normally expected, as is frequently the case with very low income people, levels of consumption do not fall nearly as much. Current income is supplemented by dissaving, debt acquisition, or gifts that are not recorded in the survey data (an attempt is made in the CES to include private charitable contributions and government charity is counted as money income). Similarly, unexpectedly large increases in income do not produce proportional increases in consumer spending.

In addition, there is the impact of life cycles in income, wealth, and consumption on the pattern of consumption expenditures by income quintile. The consumer units in the bottom quintile of the income distribution are headed by people who are approximately five years older, on average, than their counterparts in the upper three quintiles. Given that the median net worth of households where the householder is aged 55 or over is more than twice that for all households,[27] it is easy to construct a scenario in which the income of an aged householder declines much more rapidly than consumption with the difference being made up by dissaving out of accumulated wealth.

There are other possible explanations beyond these. Average expenditures on education by households in the bottom quintile are over 50 percent greater than those in the middle quintile, despite the five year average age differential. This suggests that a portion of consumer units with very low incomes are making investments in human capital which they expect will increase their income levels in the future. In a variant of the permanent income notion, they include that anticipated future income in their permanent income, to which they gear their current consumption.

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[26] The concept of permanent income is outlined in Milton Friedman, A Theory of the Consumption Function (New York: National Bureau of Economic Research, 1957).

[27] See Table 4, Household Wealth and Asset Ownership: 1984, U. S. Department of Commerce, Bureau of the Census, Household Economic Studies, Series P-70, no. 7.

In one very important respect, even the CES consumer expenditure data overstate the degree of economic inequality in the United States. Households at the bottom of the CES income distribution have fewer members than those at the top. On average, households in the bottom quintile contain 1.9 persons, while in the top quintile, there are 3.2 persons per unit. If consumer expenditures are adjusted to measure spending per person, those in the top quintile spend $ 2.31 for every dollar of spending among those in the bottom quintile. The total dollar values of spending are $ 13,704 at the top and $ 5,922 at the bottom.

Not all of the expenditures recorded in the CES are for current consumption. Some involve charitable contributions to others and payments for retirement programs, such as personal insurance, private pension plans, and social security. If these expenditures are ignored and the focus is placed on direct current consumption, those at the top spend just $ 2.03 for every dollar spent by those at the bottom. Thus, on average, life among those in the top quintile is marked by current consumption per person that is twice that found among those in the bottom quintile of the money income distribution.

The detailed expenditure data are even more revealing. Take such basic consumer items as food, shelter, apparel, and health care. These four categories account for $ 6,847 of spending per person in the top quintile and $ 3,761 for the bottom group, a ratio of top to bottom spending on basics of 1.82. As far as these items go, those at the top do better than those at the bottom, but by far less than their income levels would suggest.

Another way of assessing income inequality is to look at how those at the bottom of the income distribution fare compared to those in the middle. Per person consumer expenditures among the "middle class" (the middle quintile) of the CES income distribution were $ 7,623 in 1986. This means that, on a per person basis, the middle class spent only $ 1.29 for every dollar spent by those in the bottom quintile. Thus, total consumption spending per person is only 29 per cent greater at the middle of the income distribution than at the bottom. Turning to basics, food, shelter, apparel, and health care, we find that the middle class spends a mere $ 1.14 on these items for every dollar spent at the bottom of the income distribution.

It might be asked why the emphasis on consumption spending rather than income? Actually, income, by itself, is relatively unimportant. The significant aspect of income is the ability it gives people to consume goods and services. Consumption, not income, is clearly the superior measure of economic welfare. Based on current consumption per person, life at the bottom of the American money income distribution is only modestly less attractive that at the middle and about half as attractive as at the top. Even this comparison overlooks an important dimension of economic well-being, leisure. The data indicate that those at the bottom of the income distribution have more leisure time than those at the middle or top. Among those in the bottom quintile of the CES income distribution, only 42 percent of household members are classified as income earners (0.8 out of an average of 1.9). Among the middle class, 54 percent are income earners (1.4 out of 2.6) and, among the affluent, 66 per cent are income earners (2.1 out of 3.2). To the extent leisure increases human satisfaction, the gap between the overall well-being of the affluent and middle class, relative to those at the bottom, is closed even further.

In short, simple income comparisons may be a somewhat imprecise way of evaluating the degree of economic and social inequality in a society. What is more important are actual levels of current consumption per person and the degree of income-generating effort necessary to produce the current income that finances current consumption spending. Evaluated in these terms, disparities in overall well-being in the United States are much less pronounced than what money income differentials suggest. In particular, based on reported consumption expenditures, on average, those in the bottom quintile of the income distribution in America lead a life that is only moderately different from that of the middle class.

VI. A Static Assessment of the Impact of Public Policy on the Distribution of Income

While the evidence with respect to the distribution of consumption spending is intriguing, discussions of income equality in the United States are, for the most part, oriented around the character of conventional income measures. A basic issue in much of the debate about this matter is the effect of government tax and transfer policies on basic patterns of income distribution. The major question seems to be, "How much income is redistributed from those at the top of the income distribution to those at the bottom by government taxes and transfers?"

A recently released Census Bureau report is quite useful in this respect.[ee] It describes in great detail the impact of various government programs on the incomes of households in the United States for the year 1986. One portion of the report provides information for households by quintile of the conventional money income distribution. The specific types of data that are available are for the following categories of income, taxes, and income transfers:

Money Income - Conventional Measure (M)
Capital Gains Income (G)
Supplements to Wage and Salary Income for
  Health Insurance (H)
Net Imputed Return on Home Equity (R)
Government Cash Transfers (T_c)
Government Non-cash Transfers (T_{nc})
Federal Income Taxes (Tx_f)
State Income Taxes (Tx_s)
Social Security Taxes (Tx_{ss})

These can be arranged to define income prior to the receipt of any government transfers or payment of any of the three major taxes for which data are provided. This we call pre-tax and transfer income. Initially, we use a broad definition of pre-tax and transfer income that includes, as well as conventional money income, capital gains, health insurance supplements, and the imputed return on the household's equity in its home. Specifically, pre-tax and transfer income, denoted by M*, is defined as follows:

[ee] Measuring the Effect of Benefits and Taxes on Income and Poverty: 1986, U. S. Department of Commerce, Bureau of the Census, Current Population Report, Consumer Income, Series P-60, No. 164-RD-1.

$$M^* = M - T_c + G + H + R$$

Table 6.1 shows M* for each income quintile, both in absolute terms and as a percentage of total M* for all quintiles. In addition, we have adjusted M* to reflect the impact of all government transfers, both cash and non-cash, and the payment of federal and state income taxes and social security payroll taxes. This measure we call post-tax and transfer income, denoted by M**. The specific definition of M** is

$$M^{**} = M^* + T_c + T_{nc} - Tx_f - Tx_s - Tx_{ss}$$

Post-tax and transfer income, by conventional income quintile, is also shown in Table 6.1. In addition, the net contribution of transfers and taxes to total income, by income quintile, is indicated. A simple comparison of the pre-tax and transfer and post-tax and transfer income levels for both the lowest and highest quintiles is revealing. Post-tax and transfer income for the lowest quintile is more than triple the pre-tax and transfer level, showing a net gain from taxes and transfers of $ 97.3 billion. For the top quintile, post-tax and transfer income is some $ 321.1 billion less than the pre-tax and transfer level. In the lowest quintile, government transfers totaled $ 97.3 billion while $ 2.4 billion in taxes were paid. Per household in the bottom quintile, net transfers amount to $ 5,437. In the top quintile of the income distribution, the net transfer is a negative $ 17,943 per household, meaning the sum of federal and state income and social security payroll taxes exceeds any transfers received by that amount.

The impact of transfers of this magnitude on the overall distribution of income is substantial, reducing the standard index of income concentration (Gini

TABLE 6.1

PRE- AND POST-TAX AND TRANSFER INCOME AND NET TRANSFERS (BILLIONS OF dOLLARS), BY INCOME QUINTILE, UNITED STATES, 1986

Quintile	Pre-Tax and Transfer Income		Post-Tax and Transfer Income		Net Transfer to Income Quintile
	Quintile Income	% of Total	Quintile Income	% of Total	
Low	42.6	1.4	139.9	5.1	+ 97.3
2nd	237.0	7.7	297.5	10.9	+ 60.5
3rd	463.0	15.1	410.3	15.1	- 52.7
4th	736.3	24.0	614.8	22.6	- 121.5
High	1,584.6	51.7	1,263.5	46.3	- 321.1
Total	3,063.5	100.0*	2,726.0	100.0	- 337.5

* Total may not add to 100.0 due to rounding error.

SOURCE: *Measuring the Effect of Benefits and Taxes on Income and Poverty: 1986*, Table 2, U. S. Department of Commerce, Bureau of the Census, Current Population Report, Series P-60, No. 164-RD-1.

coefficient) by about 20 per cent.[29] Figure 6.1 shows the pre- and post-tax and transfer income distributions in Lorenz Curve form.

There are several variants of these data that can be calculated. For example, it can be argued that the inclusion of capital gains in the income measure is inappropriate since, in real terms, they may not be true gains to households. Since the value of a capital asset at the time of its disposal is not indexed to take account of general price inflation since the asset was acquired, money capital gains are badly overstated in a world characterized by generally rising price levels. If the capital gains component is excluded from the income distribution, both the pre- and post-tax and transfer income distributions become more equal. However, the impact of taxes and transfers in producing a greater level of equality is not altered. Several possible income distributions that may be generated with these data are shown in Table 6.2.

While these data are interesting, there are certain problems inherent in their use. In general, they overstate the true amount of inequality in the American economy because the households included in the bottom quintile of the income distribution represent far fewer people than the households included in the top quintile. Each quintile contains slightly less than 18,000 households, but these include only 35.5 million people in the bottom quintile compared to 58.8 million in the top quintile. The impact of these differences on the relative amounts of income per household member is dramatic. Money income per household in the top quintile is about twelve times what it is in the bottom, but income per household member is only about seven times greater in the top quintile, compared to the bottom. Thus, there is substantially greater basic equality in all the income distributions we have reported when they are expressed on a per household member basis rather than on a household basis.

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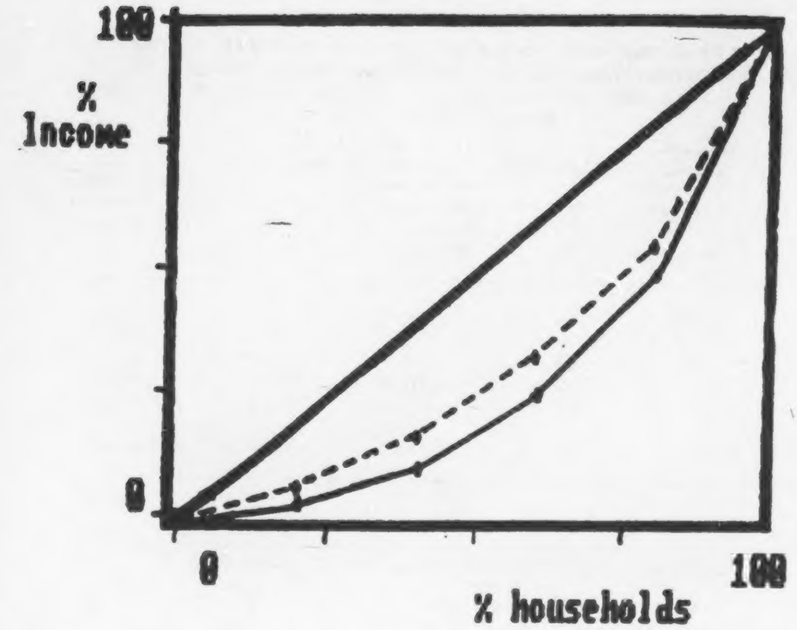
[29] See Table B, p. 5, of Measuring the Effect of ...., op. cit., for details of the behavior of the index of income concentration when the definition of income is varied.



--------- Post-Tax and Transfer Income

__________ Pre-Tax and Transfer Income

FIGURE 6.1

LORENZ CURVES FOR PRE- AND POST-TAX AND TRANSFER INCOME, UNITED STATES, 1986

TABLE 6.2

ALTERTNATIVE PRE- AND POST-TAX AND TRANSFER INCOME DISTRIBUTIONS AND NET CASH GOVERNMENT TRANSFERS (BILLIONS OF DOLLARS), BY INCOME QUINTILE, UNITED STATES, 1986

	Pre-Tax and Transfer Income				
Quintile	Conventional Income Definition (Y_1)	% of Total	With Health Insurance and Imputed Rent Adjustments (Y_m)	% of Total	Net Cash Government Transfers
Low	26.7	1.1	41.3	1.5	+ 76.6
2nd	207.5	8.2	234.5	8.3	+ 38.2
3rd	404.2	16.0	448.6	15.9	- 69.5
4th	647.8	25.6	720.8	25.6	- 133.7
High	1,247.2	49.2	1,371.3	48.7	- 330.1
Total	2,533.4	100.0*	2,816.5	100.0	- 418.5

	Post-Tax and Transfer Income							
Quintile	Income (Y_1) All Transfers	% of Total	Income (Y_1) Cash Transfers	% of Total	Income (Y_m) All Transfers	% of Total	Income (Y_m) Cash Transfers	% of Total
Low	124.0	5.6	103.3	4.9	138.6	5.5	117.9	4.9
2nd	268.0	12.2	245.7	11.6	295.0	11.9	272.7	11.4
3rd	351.5	16.0	334.7	15.8	395.9	16.0	379.1	15.8
4th	526.3	24.0	514.1	24.3	599.3	24.2	587.1	24.5
High	926.1	42.2	917.1	43.4	1,050.2	42.4	1,041.2	43.4
Total	2,195.9	100.0	2,114.9	100.0	2,479.0	100.0	2,398.0	100.0

* Total may not add to 100.0 due to rounding error.

SOURCE: *Measuring the Effect of Benefits and Taxes on Income and Poverty: 1986*, Table 2, U. S. Department of Commerce, Bureau of the Census, Current Population Report, Series P-60, No. 164-RD-1.

There is another aspect of these data which is even more troublesome. It is simple enough to calculate the pre- and post-tax and transfer income magnitudes that are shown in our tables. However, they may be quite misleading. The arithmetic is correct enough, but more than mere arithmetic is involved here. These calculations are naive in the sense that they ignore the behavioral responses of households to the taxing away of income from and the providing of transfer payments to the individuals in those households. We have already described some possible impacts of disincentive effects of transfer payment income on people's behavior. Those type effects are totally ignored in the arithmetic manipulations we have reported.

The question is, "How significant might these behavioral responses be?" Could they be of a magnitude that might significantly alter the conclusions suggested by the simple arithmetic, namely, that present public policies of taxation and providing income transfers have a substantial impact in reducing income inequality? The answer to that question is a positive one. There is ample evidence to suggest that the availability of transfer payment income to people may well reduce their willingness to supply labor in the market place and, thereby, reduce the volume of non-transfer payment income they receive.[30] Some very simple descriptive statistics describing the extent to which this has happened are quite startling. In 1970, less than one-half of the money income received by those officially classed as "poor" came from government transfer payments.[31] By 1986, almost three-quarters of the income of households in the bottom quintile of the income distribution was from government cash transfers.[32] While the groups involved are not strictly comparable, this does not alter the basic thrust of those numbers. Poor families in 1970 made up about ten percent of all families. Thus, towards the bottom of the income distribution, there is a suggestion that there has been a substitution of transfer payment income for non-transfer payment income.

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[30] For a discussion of the question of the impact of labor market disincentives, see Gallaway and Vedder, Poverty, Income Distribution, the Family ...., op. cit., Chapter V.

[31] Table H, p. 11, U. S. Department of Commerce, Bureau of the Census, Characteristics of the Low-Income Population, 1970, Current Population Report, P-60 Series, No. 81, 1971.

Further evidence along these lines is contained in the historic record of the share of money income, which is a pre-tax and post-transfer measure, that has accrued to those in the bottom quintile of the income distribution. In 1970, among families in the United States, the lowest quintile commanded 5.4 per cent of all income. Currently, 1986 and 1987, they receive only 4.6 per cent of all income.[33] Yet, transfer payments have risen by between five and six-fold since 1970.[34] One interpretation of these data is that the escalation in the volume of transfer payments has produced a systematic reduction in other types of income, especially that of the earnings variety. The working "poor" at the bottom of the income distribution have been replaced by the working "rich" (two earner relatively high income families) at the top of the income distribution. This is, of course, the process we described earlier, a phenomenon that has added to inequality rather than decreasing it.

All this means is that the simple arithmetic of income redistribution through the use of tax and transfer economic policies is not really so simple. What is needed to evaluate the impact of public policies on patterns of economic growth and income distribution is a more complex "model" of the interrelationships between policy actions and policy outcomes.

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[32] See Measuring the Effects of ...., op. cit., Table 2.

[33] Table 12, Money Income of Households, Families ...., op. cit.

[34] Cash benefit payments under public income maintenance programs totaled $ 60.5 billion in 1970 and $ 346.0 billion in 1986. See Table 568, Statistical Abstract of the United States, 1989, U. S. Department of Congress, Bureau of the Census, 1989.

VII. *A Dynamic Assessment of Economic Growth* **and Income Distribution in the United States**

We turn now to the question of how to deal with the problems inherent in static analysis of the variety discussed in the previous section of this analysis. Our choice is the recently developed technique of employing a computable general equilibrium (CGE) model of the American economy. The reasons for using such a model have already been indicated. Basically, it will permit us to build into the analysis the impact of a variety of behavioral responses to changes in public policy. In short, it will permit us to extend our inquiry by integrating some of findings for particular sectors of the economy into a full blown model for the entire system. Our particular emphasis in this section of our study will be on the impacts of the major public policy action taken in 1986 in reforming the Federal tax system, i. e., the Tax Reform Act of 1986. By using the CGE model approach, we will be able to transcend some of the difficulties implicit in any partial analysis of the effects of that tax legislation.

Attempts to deal with the problems inherent in partial-tax models date to the early two-factor, two-sector model of the American economy developed by Arnold Harberger.[35] More recently, computable general equilibrium (CGE) models have been developed which simulate the direct and indirect effects of government tax legislation on a variety of industries and consumer income classes.[36] These models generally disaggregate

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[35] Harberger's contributions are described in his "The Incidence of the Corporation Income Tax," Journal of Political Economy, 1962, and "Efficiency Effects of Taxes on Income from Capital," in Marian Kryzaniak, ed., Effects of Corporation Income Tax (Detroit: Wayne State University Press, 1966).

[36] Examples of such models are John B. Shoven and John Whalley, "A General Equilibrium Calculation of the Effects of Differential Taxation of Income from Capital in the U. S.," Journal of Public Economics, Vol. 1, 1972, and C. L. Ballard, D. Fullerton, J. B. Shoven, and J. Whalley, A General Equilibrium Model for Tax Policy Evaluation (Chicago: University of Chicago Press, 1985).

TABLE 7.1

PRODUCTION SECTORS AND COMMODITY CLASSIFICATIONS USED IN THE COMPUTABLE GENERAL EQUILIBRIUM MODEL

	Production Sector	Commodities
1.	Service	Financial and Other Services
2.	Manufacturing	Food
3.	Financial	Housing
4.	Food and Tobacco Processing	Savings
5.	Chemicals and Plastics	Clothing and Jewelry
6.	Petroleum Refining	Reading and Recreation
7.	Crude Oil	Motor Vehicles
8.	Mining	Furnishings and Appliances
9.	Forestry	Utilities
10.	Agriculture I - Program Crops	Gasoline and Other Fuels
11.	Agriculture II - Livestock	Alcohol and Tobacco
12.	Agriculture III - All Other Agriculture Production	Nondurable Household Items
13.		Transportation

TABLE 7.2

VARIABLE DESCRIPTIONS FOR THE EQUATIONS OF THE MODEL IN FIGURES 1a AND 1b

ξ	- 12 X 13 transformation matrix.
Q_c	- Defined in figure 1b.
τ_c	- Marginal income tax rate on household c.
CD_c	- Total government consumption by the cth household.
CD_j	- Consumer demand of the ith product.
DD_j	- Demand for land in the jth industry.
DK_j	- Demand for capital in the jth industry.
DL_j	- Demand for labor in the jth industry.
EM_j	- Demand elasticity of export demand.
FE_j	- Endowment demand vector of adjusted elasticity of export demand.
GC_c	- Gross consumption of household c.
GCE_i	- Consumer demand of the ith consumer good, i = 1, ..., 13.
GD_j	- Government demand for product j.
GDD	- Government demand for land.
GDK	- Government demand for capital.
GDL	- Government demand for labor.
GE_j	- Government endowment of product j.
GSK_j	- Government endowment of capital in the jth industry.
INV_j	- Investment in sector j.
PIT_c	- Personal income tax payment from household c.
$\Sigma_i RAS_{ji}$	- RAS balanced I/O intermediate demands.
RCS_{ic}	- RAS balanced matrix of each household's demand for each consumer good (6 X 13).
SAV_c	- Savings in household c.
SL_c	- Supply of labor by the cth household, c = 1, ..., 6.
SK_c	- Supply of capital by the cth household, c = 1, ..., 6.
SD_c	- Supply of land by the cth household, c = 1, ..., 6.
TC_c	- Consumption taxes on the cth household.
TC_i	- Excise tax on consumer good i.
TD_j	- Tax on land in the jth industry.
TE	- Total government endowments
TL_j	- Tax on labor in the jth industry.
TK_j	- Tax on capital in the jth industry.
TRN_c	- Transfer payment to household c.
TXO_j	- Government output tax on the jth industry.
VM_j	- Imports of product j.
VX_j	- Exports of product j.
Y_j	- Total output of production sector j = 1, ..., 12.
ZTA	- Consumption + leisure coefficient (set to 1.5)

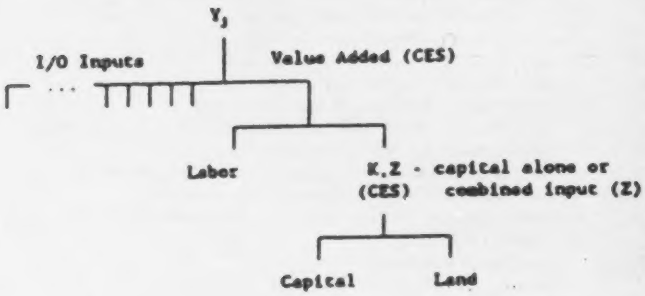
FIGURE 7.1a

DIAGRAMMATIC REPRESENTATION OF THE SUPPLY SIDE OF THE EMPIRICAL MODEL (SEE TABLE 7.2 FOR A DESCRIPTION OF EACH OF THE VARIABLES)

Overall Equilibrium by Sector

(1) $$Y_j + CE_j + VM_j = \Sigma_j RAS_{jk} + CP_j + VX_j + INV_j$$

Supply



Y_j
I/O Inputs
Value Added (CES)
Labor
K,Z - capital alone or
(CES) combined input (Z)
Capital
Land

Equations

(2) $$\Sigma_c SL_c = \Sigma_j DL_j + GDL$$

(3) $$\Sigma_c SK_c = \Sigma_j DK_j + GDK$$

(4) $$\Sigma_c SD_c = \Sigma_j DD_j + GDD$$

where:

(5) $$GDL = \Sigma_j TL_j$$

(6) $$GDK = \Sigma_j TK_j$$

(7) $$GDD = \Sigma_j TD_j$$

FIGURE 7.1b

DIAGRAMMATIC REPRESENTATION OF THE DEMAND SIDE AND CONSISTENCY ASPECTS OF THE EMPIRICAL MODEL (SEE TABLE 7.2 FOR A DESCRIPTION OF EACH OF THE VARIABLES)

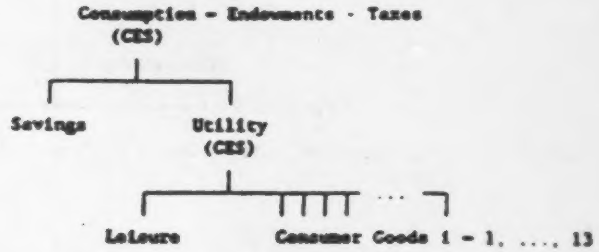
Transfer to Consumer Goods

(8) $CD_j = \Sigma_i \ell_{ji} [GCE_i - TC_i]$

(9) $\Sigma_c RCS_{ic} = GCE_i$

(10) $\Sigma_i RCS_{ic} = SL_c + SK_c + SD_c + TRN_c - PIT_c$

Demand - Household

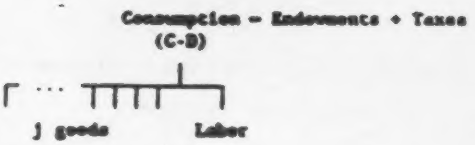


Consumption = Endowments - Taxes
(CES)
Savings
Utility
(CES)
Leisure
Consumer Goods i = 1, ..., 13

(11) $GC_c = \Sigma_i RCS_{ic} - SAV_c + (1 - \tau_c)(ZTA_c)SL_c$

(12) $GC_c = SL_c + SK_c + SD_c + TRN_c - PIT_c + (1 - \tau_c)(ZTA_c)SL_c$

Demand - Government



Consumption = Endowments + Taxes
(C-D)
j goods
Labor

continued

FIGURE 7.1b (CONTINUED)

Equations

(13) $$TE = \Sigma_c\,[SL_c\,ZTA_c\,r_c + SK_c\,r_c + SD_c\,r_c - (Q_c + TRN)]$$

$$\text{where } Q_c = SL_c\,r_c + SK_c\,r_c + SD_c\,r_c - PIT_c$$

Balance - Foreign

(14) $$\Sigma_j\,[VM_j \cdot EM_j/(1 + EM_j) + VM_j/(1 + EM_j)] = \Sigma_j\,(VX_j + FE_j)$$

Consistency

Household income equals expenditures

(15) $$\Sigma_c\,(SL_c + SK_c + SD_c + TRN_c - PIT_c) = \Sigma_c\,(CD_c + TC_c)$$

Government plus income equals outlays

(16) $$\Sigma_j\,(GSK_j + GE_j + TL_j + TK_j + TD_j + TXD_j) - \Sigma_c\,TRN_c$$
$$= \Sigma_j\,(GDK_j + GD_j) + GTL + GDL$$

Total imports equals total exports

(17) $$\Sigma_j\,(VM_j - VX_j) = 0$$

Value of market excess demand equals value added plus taxes

(18) $$\Sigma_j\,(CD_j + GD_j + VX_j - CE_j + VM_j)$$
$$= \Sigma_j\,(DL_j + DK_j + TD_j + DD_j + TL_j + TK_j + TXO_j)$$

manufacturing sectors while aggregating those sectors involved in the production of raw materials from the land. The model which will be described here has the advantage of being more detailed in that it also disaggregates the raw material producing sector. It also has certain other advantages. It incorporates estimates of all forms of existing taxes. Therefore, it can simulate every component of a major tax reform policy action. Especially important from our standpoint is the fact that the model stratifies consumers by income class. This permits an evaluation of the output and distributional effects of major changes in the structure of marginal tax rates. Finally, on the more technical side, because the solution algorithm for the model does not depend on local approximations, the results are accurate in the presence of substantial policy changes.

Background and Specification of the CGE Model

Our model is based, in part, on the Ballard, Fullerton, Shoven and Whalley large CGE model of the U. S. economy in that their methods for constructing inputs into the model are followed.[37] While our model is smaller, it is more specific for our policy concerns. On the supply side of the economy, total production in the United States is divided into 12 production sectors which, in turn, are used to create 13 consumption commodities (see Table 7.1) Although the concepts involved in the model are rather simple and straightforward, the model itself is fairly complex. Hence, to facilitate its presentation, we use the diagrams and equations in Figures 7.1a and 7.1b, and the set of variable acronyms given in Table 7.2. We see that for equilibrium to hold in each production sector j:

(1) Total U. S. production, Y_j, plus

(2) The Government Endowment of that good, GE_j, plus

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[37] Op. cit.

(3) Imports of that good, VM_j,

must equal:

(1) Total intermediate demands from all other sectors, $\Sigma_L\ RAS_{jL}$ (taken from published Input-Output tables), plus

(2) Total government demands for the jth sector's output, GD_j, plus

(3) Total investment demand satisfied by the jth sector, VX_j.

We now examine each of these components. The output of any given sector, j, is shown in the diagram in Figure 7.1a. In this diagram, total sectoral output, Y_j, is depicted as the product of a double or triple nested production function. On the first level, inputs of materials enter as Leontief components of the national Input-Output matrix and exhibit no elasticity of substitution between each other. The "value-added" to production by labor and capital, however, enter as primary inputs into a nested CES (constant elasticity of substitution) production function, and the substitution elasticity between these inputs can be set to any value between 0 and ∞.

For the four sectors explicitly using land as an input,[30] we use a nested variant of the value-added CES function. We define an input Z, where Z itself is a CES function of land and capital inputs. This Z input, in turn, replaces K in the diagram and, in effect, gives us a CES production function within a CES production function. The advantage to nesting these functions in this manner, as opposed to using a simple three factor CES value added function is that it allows substitution elasticities to vary between primary inputs.

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[30] This represents an extension of Ballard, Fullerton, Shoven and Whalley, op. cit. Numerous other models , however, have also explicitly dealt with land. For example, see T. W. Hertel and M. S. Tsigas, "Tax Policy and U. S. Agriculture: A General Equilibrium Analysis," American Journal of Agricultural Economics, Vol. 70, 1988.

Primary factors of production are drawn from each of the c= 6 households (income groups). Each income group supplies different quantities of land, labor, and capital (SD_c, SL_c, and SK_c), and the total amount of these is either consumed as sectoral inputs or taxed away by government in the form of input taxes. The nature of this process is presented in a more formal way in equations 2-7 in Figure 7.1a.

On the household side, the critical dimension from our standpoint, each household's consumption is modeled as a triple-nested consumption function. At the first level of this function, the consumer faces a CES tradeoff between future consumption (savings) and present consumption (utility). By assumption, we assert that savings equals investment throughout the economy. Investment demand, in turn, is financed out of savings. Since we are only interested in static simulations, such a savings/expenditure choice is not needed to account for dynamic economic growth. It is important to include it here, however, because taxes which discourage savings and investment have important consequences for output and relative prices in other sectors.

At the second level of this function, the consumer trades off leisure time against the goods and services he could buy out of labor services. Incorporating this trade-off into our model is essential if we are to capture the full effects of a tax policy change such as that contained in the Tax Reform Act of 1986. We again represent this with a CES nest. Finally, the i = 13 goods and services consumed by each household[39] are derived from the j = 12 sectoral outputs described above and taxed by government in the form of excise taxes TC_i (Figure 7.1b, equations 8-9). We assume the elasticity of substitution between any pair of these goods to be equal, and for most cases, we set it equal to 1 so that the function collapses into a simple Cobb-Douglas utility function. For each household, then, we maximize this function subject to an income constraint (Figure 7.1b, equations 9 and 15).

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[39] Technically, one of the consumer goods is savings. Consumers, then, only trade between 12 goods in the final nest of the consumption function. The transition matrix $Z_{i,j}$, however, is still a 12 x 13 matrix.

Government is introduced into the model by assigning it an initial endowment of goods as well as the personal taxes it collects and by assuming that government demands goods and services to the extent that there remains no surplus or deficit (Figure 7.1b, equation 16).[40] Because we want government purchases to reflect a sensitivity to prices, we model government demand for sectoral outputs, capital, and labor as a single tiered Cobb-Douglas consumption function. To preserve the correct incentive structure, we tax consumers in each income class at their correct marginal tax rate, τ_c. We return to consumers the difference between collections using this rate and the actual average rate, PIT_c, in the form of lump-sum transfers (Figure 7.1b, equation 12).

In our representation of the foreign sector, we assume that (1) U. S. and foreign countries cannot borrow from each other over the time that the analysis takes place, or (2) Such borrowing remains constant over the time period. The balance of trade thus remains constant over the interval in question (as shown in equation 17). As long as the overall balance remains constant, the import and export elasticities of individual goods may be varied by adjusting the EM_j and FE_j components of equation 14 in Figure 7.1b. If equation 18 then holds with equality, the model is completely specified.

Given this set of equations, we solve the empirical model for a general equilibrium using a series of linear complementary programs (SLCP). More precisely, we use a particular SLCP first proposed by Mathieson and later elaborated on and made available for computer use by Rutherford.[41] We accomplish our policy analysis by first using this method to calculate the simulation for our base year of 1984. The model is adjusted until convergence with the economic production occurring in that year is achieved. We then change the tax structure to incorporate the Tax Reform Act of 1986. This allows us to assess the resulting differential effects of these taxes.

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[40] This assumption can easily be relaxed but would require an appropriate change in the consumption-investment equality or the balance of trade constraint.

[41] L. Mathieson, "Computational Experience in Solving Equilibrium Models by a Sequence of Linear Complementary Problems," Operations Research, Vol. 33, 1985, and T. Rutherford, "A Modeling System for Applied General Equilibrium Analysis," Working Paper, Cowles Foundation for Economic Research, Yale University, 1987.

For our analysis, the taxes are added in two stages. We first add just the changes to the income tax structure affecting consumers (TAX-1). These taxes include personal income taxes and labor taxes (social security). These tax changes increase net wealth in all classes by lowering the marginal rate and thus act like a demand shifter for final consumption. In the second stage (TAX-2), we tax capital inputs by including the removal of corporate capital gains taxes and investment tax credits (except in forestry, which retained the investment tax credit). These tax changes, in turn, raise the costs of production and are thus more akin to supply shifts. In this manner, we simulate the incremental effects of the tax reform.[42]

Results of Estimating the Model

The results on the consumer demand side of estimating the model are shown in Table 7.3.[43] The data reported there indicate the predicted changes in net income, by income class, associated with the implementation of the Tax Reform Act of 1986. The most significant result is that net income rises in all income classes as the result of the TAX-1 portion of the

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[42] Although the Tax Reform Act of 1986 was explicitly designed to be revenue neutral, no revenue neutral feature was built into the model. Instead, we use an unconstrained simulation as we feel it to be more realistic and it also conveys valuable information on possible changes in the government deficit. In the event, the TAX-1 portion of the changes is approximately revenue neutral while the TAX-2 segment is revenue enhancing for the Federal government.

[43] For a description of the data employed, see, Roy Boyd and David H. Newman, "Tax Reform and Land Using Sectors in the the U. S. Economy: A General Equilibrium Analysis," _Ohio Economic Studies_, 89-03, Department of Economics, Ohio University, 1989.

TABLE 7.3

ESTIMATED PERCENTAGE CHANGE IN TOTAL NET INCOME AS THE RESULT OF THE TAX REFORM ACT OF 1986, BY INCOME CLASS AND TYPE OF TAX

Income Class	Percentage Change from TAX-1	Percentage Change from TAX-2
$ 0 - 9,999	+ 4.92	- 0.57
10,000 - 14,999	+ 1.31	- 0.52
15,000 - 19,999	+ 2.31	- 0.41
20,000 - 29,999	+ 1.23	- 0.24
30,000 - 39,999	+ 2.72	- 0.15
40,000 +	+ 2.64	- 0.52
Government	- 0.52	+ 2.24
Total	+ 1.88	+ 0.09

SOURCE: Author's calculations.

1986 changes. Also, the percentage increase is, by far, the largest in the lowest income group, under $ 10,000. Compared to the percentage increase in the highest income group, $ 40,000 and over, it is slightly more than twice as great. At the same time, there is only a small loss of revenue (about 0.5 per cent) to the government as the result of these changes, largely because total output is estimated to rise by 1.9 per cent. Clearly, the CGE estimates of the impact of the Tax Reform Act of 1986 suggest that it is a policy change that implies a series of what are widely interpreted as desirable outcomes, namely, rough revenue neutrality for the government, enhanced overall levels of output, and a more equal distribution of income.

The same cannot be said for the TAX-2 portions of the 1986 legislation. According to the CGE estimates, it produces a significant enhancement of revenue for the government, about 2.3 per cent, but does so at the expense of reducing consumer income levels in every income class. Thus, this portion of the 1986 tax changes implies policy outcomes that are much more of a mixed bag.

VIII. Concluding Remarks

After exploring a variety of aspects of the dual questions of income growth and patterns of income distribution, several rather significant conclusions seem to emerge.

First: We find that if the national index of income concentration is adjusted to remove the inequality produced by interstate income differentials, what remains, which we call "core" inequality, shows a general pattern of increase throughout the post-World War II period.

Second: A further important factor in accounting for the observed increase in income inequality since the late 1960's is the decline in average family size. Below a family size of four, income inequality increases as family and household size declines. This may well be tied to the observed phenomenon of a shift towards two income (husband-wife) families at higher income levels.

Third: Where Federal government tax and expenditure policies are relatively small in magnitude, by historic standards, they operate to reduce income inequality. However, as they grow in size, a threshold is reached, beyond which they lead to more, rather than less, inequality.

Fourth: There has been a significant decline in the proportion of income received by the poor from sources other than government cash transfers. In 1970, less than one-half the money income of poor families came from government cash transfers. By 1986, about three-fourths of the money income of households in the bottom quintile of the money income distribution was of the government cash transfer variety.

Fifth: Evaluated on the basis of consumption spending, rather than money income levels, there appears to be greater equality in the United States than indicated by the money income distribution data.

Sixth: Current evidence suggests a substantial amount of income redistribution takes place in the United States. On average, in 1986, households in the bottom quintile of the money income distribution received about $ 5,400 each in government cash and noncash transfers, net of income and social security tax payments. At the same time, among the top quintile, income and social security tax payments exceeded government cash and non-cash transfers by almost $ 18,000 per household.

Seventh: An evaluation of the growth and distributional effects of the 1986 Tax Reform Act in the framework of a computable general equilibrium model of the American economy indicates that its long run effects will be to both increase economic growth while generating greater equality in consumption spending outcomes across various income groups.

These are our more specific findings. At a broader level, we wish to make some further observations. To begin, it appears to us that the linkage between tax and transfer policies, income growth, and income equality may be of two general types. When tax and transfer policies aimed at income redistribution are of a form that provides disincentives for economic activity, they may discourage economic growth while actually producing greater income inequality. However, when policies, especially those involving taxation, produce positive incentives for economic activity, both economic growth and greater equality may emerge. A classic example appears to be the income tax portion of the Tax Reform Act of 1986. What this suggests is that the results of economic policy are not generated in a vacuum. Rather, they are subject to the influences of a wide range of behavioral responses on the part of individuals. It is important that we recognize the role of these responses in determing the effect of public policy on economic growth and patterns of income distribution. Failure to do so may lead us into courses of action that not only reduce the potential for economic growth, but may produce additional income inequality. Rare indeed are the policy actions that will give us both more growth and less inequality, such as the income tax sections of the Tax Reform Act of 1986.

Representative **Hamilton**. Thank you very much, Mr. Gallaway. Mr. Gottschalk, please proceed.

STATEMENT OF PETER GOTTSCHALK, PROFESSOR OF ECONOMICS, BOSTON COLLEGE

Mr. **Gottschalk**. Thank you. I also have a coauthor, Sheldon Danziger, a professor at the University of Michigan. This testimony is based on joint work which he and I have been doing.

I'm going to summarize the conclusions of the studies. I'm going to make three points:

The first is that the gap between the rich and the poor has indeed increased, so the shares of the pie have become less equal. At the same time the pie has become larger. The net effect of those two things is that the poor have indeed lost. Today people in the lowest quintile make less than they did in the late 1970's. The pie has grown, but the share has become smaller, with the net impact that the increasing inequality for those at the bottom has more than offset the impact of the growing pie. That's the first point.

The second point is that this is not a result of cyclical changes.

The third point is that it is not demographics.

I can make those very positive statements. Later on, when you press me as to what is the cause, I'm going to be less able to pinpoint causes. I can't tell you this is the smoking gun but at least I know what it isn't.

The work that we've done uses the Current Population Surveys, the most common sources of information—we look at four different years: 1973, 1979, and 1987, which are all cyclical peaks, and 1982, which is a trough.

All the numbers I'll present today are based on nonaged males. We do that for a very specific reason. We want to know what's been happening in the economy that's been changing the income distribution. If you look at the elderly, you allow transfers to have an overwhelming impact. So we get rid of the elderly because we're interested in what the economy is doing.

We also get rid of female heads of households because they have been growing very fast and including them just makes things look a lot worse. Therefore people can always come back and say the only reason we're getting our results is because we include female head of households. We are only looking at people who are attached to the labor market. They are the ones that are going to be most affected by the economy.

If you'll turn to table 1, I'm going to go very quickly through this. We use the concept of adjusted family income. This comes after long debates with many people. Every time somebody has objected to the numbers we've tried to change our methodology in ways that are most appropriate to their views: we use a CPIX, we deflate by poverty lines, we do all the things which people have used to try to say that things aren't getting worse.

If you look at the last row of table 1, the bottom number, 3.69 is the median income in 1987. That says that half the families had incomes which were more than 3.7 times the poverty line. That's a way of reading the table.

If somebody at the poverty line has an income level of 1, somebody who makes three times the poverty line has an income level of 3. Looking across the rows you can see the effective growth of adjusted incomes over time.

Looking up and down the columns show how this growing pie, has been shared. The number in the top right-hand corner, the 1.67, says that the lowest 10 percent of the population received 1.67 percent of the pie.

So we're dividing up a pie which is growing. In 1987, we give the lowest 10 percent a little bit more than 1.5 percent of that pie. We give the highest 10 percent, 25.4 percent of that pie. So about a quarter of the pie goes to that group.

If you look at numbers up and down the column, that shows you how we share the pie. The numbers at the botton show you how the pie is growing.

As I've already said, clearly the mean is increasing. I have no arguments with people who want to say that we've had growth. We have had growth. It has been substantial. And the surprising fact is that even during a period of substantial growth we're having the kinds of problems we're having.

How have the shares of the pie changed? Now we're going to get arguments about how the United States is or isn't equal. I'm not going to argue about what the right amount of inequality is. I want to know how things are changing. That's my concern. Are things getting better or are they getting worse?

Look across the rows now. Look at the share received by the lowest 10 percent in 1973. They received 2.3 percent of the income. That wasn't a lot, but it was a lot more than the 1.7 that they receive today. So the share of the pie received by the lowest decile has substantially declined.

If you look at the top quintile, their share has actually increased. Today they're receiving 25 percent and in 1973 they were receiving 24 percent. It seems to me that the numbers are utterly clear.

Put another way, in 1973, the top 20 percent received six times as much income as the bottom 20 percent; today they receive eight times as much. Those are the facts.

Is this recent period different from the past? Well it certainly is, compared to the postwar period. In the postwar period inequality simply didn't change.

I went to graduate school where I was told that there is nothing to study about income inequality. It is something that doesn't change. Indeed my professors were right. Through the midseventies inequality was basically one of the great constants. It didn't matter how fast the economy was growing or not growing. There was a cyclical component, but over the long term there was no change.

In the recent recovery, we've observed a very different pattern. Before the recent recovery, people could legitimately argue that what we were seeing was a cyclical phenomenon. When the economy turned sour, average incomes go down, the least experienced workers get laid off and that causes inequality. So the growth in inequality could have been cyclical. But the recent recovery has been strong. During this recovery inequality has increased in every year.

So the picture which one gets is of a growing pie with changes in the shares. If you look at table 2, it shows the net impact of these two forces. Between 1979 and 1987, incomes went up by 11 percent for all persons. There was growth. If you look at the two bottom deciles—or you could look just at the bottom decile—the actual income went down by 7 percent. So for the people in the bottom, their incomes went down as a result of receiving a smaller share of a growing pie. The top decile clearly gained. It had both a growing pie and an increasing share. Their incomes went up by 20 percent.

So my view is that the numbers are very clear. We've had strong growth, we've had increasing inequality, the inequality is not demographic and it's not cyclical.

Thank you.

[The prepared statement of Mr. Gottschalk, together with attached studies, follows:]

PREPARED STATEMENT OF PETER GOTTSCHALK*

INCREASED INEQUALITY IN THE CURRENT RECOVERY

Thank you for the opportunity to appear before the Joint Economic Committee to present the results of the work Sheldon Danziger, Professor of Social Work and Public Policy at the University of Michigan, and I have undertaken which describes the recent changes in inequality of family income.

In this testimony I summarize the results of a set of studies which I enclose for the record. In these studies, we examine trends in average incomes and in inequality. These studies show that:

- The gap between the incomes of those at the bottom of the distribution and those at the top has widened. In fact, incomes of those at the bottom of the distribution are lower today than they were in 1979.
- This increased income inequality is not a result of cyclical changes. Inequality increased during the recession, but it has continued to grow throughout the current recovery.
- This change is not a result of demographic shifts, since inequality has grown even for households headed by a prime–aged male.

I. THE TREND IN INEQUALITY

We use data from the March 1974, 1980, and 1983, and 1988 Current Population Survey computer tapes to measure the level and distribution of income over the business cycle. To focus attention on economic changes, we concentrate on those whose economic status is most affected by the economy—persons living in families headed by a man under the age of 65. Our results are thus not affected by the increased percentage of persons living in families headed by women, who have lower than average incomes, and have fared badly in recent years, or by the increased percentage of persons living in families headed by the elderly, who have fared quite well over this period.

Table 1 presents data on adjusted family income for families with a non–aged male head. In order to adjust for family size each family's income is divided by its poverty line. For example, the median adjusted family income of 3.69 in 1987 indicates that half the persons in male headed households had incomes 3.69 times as high as their poverty lines, or roughly $43,000 for a family of four.

Table 1 presents the mean and median of adjusted family income and the income share of each decile of persons. The latter shows how income was shared across the population. For example, in 1973 the poorest ten percent of persons in male headed households received 2.3 percent of the income while the top ten percent received 24.4 percent of the income.

Between 1973 and 1979, two cyclical peaks, mean income increased by 7.4 percent. Income rose an addition 11.0 percent between 1979 and 1987, the latest year of available data. Therefore, our data captures the economic growth which has occurred between cyclical peaks.

The growing pie, however, was not equally shared. Table 1 shows that between 1979 and 1982, average incomes decreased and inequality increased as a result of the deep recession. The economy, however, rebounded substantially during the 1982–1987 recovery. The mean grew rapidly, rising by almost 16 percent. But inequality continued to increase as those at the bottom of the distribution lost and those at the top gained. By 1987, the combined income share of the lowest two deciles was about 20 percent below its 1973 value. The income share of the top two deciles increased during the recovery, ending up about 5 percent above its 1973 share. Thus, while the top twenty percent received about six times as much as the bottom twenty percent in 1973, by 1987 they received about eight times as much.

II. IS THE RECENT PERIOD DIFFERENT FROM THE PAST?

Our findings of increased inequality during the current recovery are in marked contrast to the experience of the two post–War decades, when inequality did not change very much. The conventional wisdom holds that inequality is counter cyclical. During recessions, employers retain the most experienced workers as demand declines. The newly–hired and least–skilled, who have below–average earnings, are laid off and experience disproportionate income losses. Recoveries are characterized by increased employment of the least–experienced.

Such counter cyclical swings in inequality have characterized most recoveries, but not the current one. Not only is the direction of change counter to the conventional wisdom, but the magnitude is substantial. In a recent study we document just how different this recovery is by comparing expectations based on past patterns with actual experience.

If this had been a typical recovery, the share of income received by the lowest twenty percent should have risen by 13 percent. Instead the share of the lowest quintile fell. The share of the top twenty percent would have fallen by 2 percent if this had been a typical recovery. Instead their share increased.

III. NET IMPACT OF RISING INEQUALITY IN A PERIOD OF GROWTH

We have shown that between 1979 and 1987 the economic pie grew but the division of the pie became less equal. Table 2 shows the net impact of these two changes. Between 1979 and 1987, the mean income for all persons grew by 11 percent (column 1). For the poorest twenty percent (column 2) income declined by 7.2 percent. Thus the growth in the size of the pie was not sufficient to counteract the shrinking share for those at the bottom. On the other hand, the 20.2 percent increase in incomes of those in the top decile reflects the fact that they were receiving an increasing share of a growing pie.

IV. CONCLUSION

We have shown that even during a period of strong economic growth inequality has continued to increase for households with an adult male present. The increases in inequality would be even larger if we included female headed households. We have, however, purposefully focused on non–aged males to show that the trend is not the result of increases in the number of female headed households.

The decline in the share of income received by those at the bottom of the distribution has been sufficiently large to more than offset the impact of the growing pie. The net impact is that the incomes of the poorest ten percent declined by 7.2 percent between 1979 and 1987. In sharp contrast, the incomes of those in the top ten percent of the income distribution increased by 20.4 percent.

NOTE

*The research on which this testimony is based has been funded by the Russell Sage Foundation.

Table 1 Changes in the Distribution of Adjusted Family Income for Persons Living in Families Headed by Nonelderly Males, Selected Years, 1973-1987[a]

Decile	Adjusted Family Income Share of Each Decile[b]			
	1973	1979	1982	1987
Lowest	2.31%	2.10%	1.64%	1.67%
2	4.47	4.34	3.83	3.73
3	5.82	5.77	5.35	5.22
4	6.95	7.01	6.63	6.56
5	8.07	8.22	7.98	7.86
6	9.29	9.51	9.37	9.28
7	10.71	11.03	10.99	10.91
8	12.56	12.91	13.07	13.07
9	15.36	15.64	16.19	16.25
Highest	24.45	23.46	24.94	25.45
Mean[c]	3.63	3.90	3.74	4.33
Median[c]	3.13	3.45	3.25	3.69

Source: Computations by authors from March 1974, 1980, 1983, and 1988 Current Population Survey computer tapes

[a] The income of each family is divided by its official poverty line and weighted by the number of persons in the family. Each decile includes the same number of persons.

[b] Decile shares may not add to 100.00 due to rounding.

[c] Constant 1987 dollars using CPI-I1.

Table 2 Change in Adjusted Family Income of Persons Living in Families Headed by Non-Elderly Male

	All	Bottom Two Deciles	Top Decile
Mean			
1979	3.90	1.25	9.16
1987	4.33	1.16	11.03
Percentage Change	+11.0	-7.2%	+20.4%

(From Journal of Post Keynesian
Economics, Winter 1988-89/Vol. 11,
No. 2)

Topics on the distribution of income

Increasing inequality in the United States: what we know and what we don't

SHELDON DANZIGER and PETER GOTTSCHALK

I. Introduction

Post-Keynesians have focused primarily on changes in the functional distribution of income. In this paper, we analyze the major changes which have occurred within the personal distribution of income. Since much of this change has occurred within labor income, we hope that our work will encourage post-Keynesians to expand their analysis to explain changes within this major functional component.

The economic record of the past 15 years in the United States, and in many industrialized countries, differs markedly from that of the immediate postwar period. Unemployment rates have been higher, real income growth has been slower, and inequalities within and among various demographic groups and regions have increased.

Ten years ago, academic conferences and papers examining the historical record in the United States discussed "The Fading Effect of

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Support from the Graduate School Research Committee of the University of Wisconsin, the Russell Sage Foundation, and the Assistant Secretary for Planning and Evaluation at the U.S. Department of Health and Human Services is gratefully acknowledged. Any opinions expressed are those of the authors alone and not of the sponsoring institutions.

Government on Inequality" (Reynolds and Smolensky, 1978) and more ideologically inclined scholars asked, "How Much More Equality Can We Afford?"(Browning, 1976). The conventional wisdom was that poverty had been declining rapidly and inequality had been relatively stable. Today, after a decade of stagnation, two back-to-back recessions, and a budgetary retrenchment, attention is directed to such issues as "The Shrinking Middle Class" (Bradbury, 1986), "A Surge in Inequality" (Thurow, 1987), "Cycles of Deprivation and the Underclass Debate" (Wilson, 1985), and "The Impact of Budget Cuts and Economic Conditions on Poverty" (Danziger and Gottschalk, 1985a). Despite a robust recovery, poverty remains high and inequality is still increasing.

It is ironic that the following statement, written in 1920 by Hugh Dalton, can serve as an introduction to this paper:

> The question whether the inequality of income is increasing or decreasing in modern communities is one of the most important questions in economics. Many writers have attempted to answer it, but their answers do not generally carry much conviction. To determine whether, under modern conditions, inequality tends to increase or decrease, involves the enumeration of a large number of distinct and conflicting tendencies and the weighing and balancing of them one against the other. (quoted in Brady, 1951, p. 4)

More than sixty years after Dalton, we still attach normative significance to the trend in inequality, often cannot agree as to what the trend actually has been, and rarely understand its underlying causes. What is common to all of these studies is the failure of analysts to do much more than describe trends and then to advocate a policy response that fits the data and their personal views. That is, the degree of inequality and its trend are a topic of intense policy interest, but of little economic understanding.

We illustrate this point with respect to the question, prominent in the literature at least since Kuznets (1955), "What is the effect of economic growth on inequality?" and, because of the special focus on poverty in the United States, "What is the effect of economic growth on poverty?"

This article is organized as follows. The next section discusses trends in the level and distribution of family income. We then discuss the conceptual links between economic activity, inequality, and poverty and point out some factors that now limit the inequality-reducing ef-

Table 1

Family income, poverty, inequality, unemployment, and government transfers, selected years, 1949–1985

Year	Median family income (1985$) (1)	Official poverty rate[a] (2)	Income share of bottom 40% of families (3)	Unemployment rate (4)	Cash transfers per household (1985$) (5)
1949	$14,021	34.3%[b]	16.4%	5.9%	$ 832
1954	16,678	27.3[b]	16.6	5.5	1,059
1959	19,993	22.4	17.2	5.5	1,676
1964	22,783	19.0	17.1	5.2	2,060
1969	27,680	12.1	18.0	3.5	2,465
1974	28,145	11.2	17.5	5.6	3,249
1979	29,029	11.7	16.8	5.8	3,626
1985	27,735	14.0	15.5	7.2	3,693

Source: U.S. Bureau of the Census, Current Population Reports, Series P-60.

[a] Percentage of all persons living in units with income below the official poverty thresholds.

[b] Estimate based on unpublished tabulations from March Current Population Surveys by Gordon Fisher, U.S. Department of Health and Human Services.

fects of economic growth. We then present some empirical results which illustrate why the effects of economic growth today differ from those in the post-World War II era. Finally, we turn to an evaluation of some hypotheses that attempt to explain increasing inequality.

II. Trends in family income inequality and poverty in the United States

To appreciate recent trends in family income inequality and poverty, it is useful to contrast this experience with that of the 1950s and 1960s. As the data in column 1 of Table 1 and Figure 1 reveal, median family income adjusted for inflation grew by about 40 percent between 1949 and 1959 and by about 40 percent between 1959 and 1969. Poverty as officially measured (column 2) dropped by about 10 percentage points and the income share of the bottom 40 percent of families (column 3 and Figure 2) increased by 0.8 percentage points during each decade. In fact, between 1949 and 1969, real year-to-year changes in the median (not shown) were positive sixteen times, unchanged twice, and negative only once. The period since 1969, especially since 1974, is in

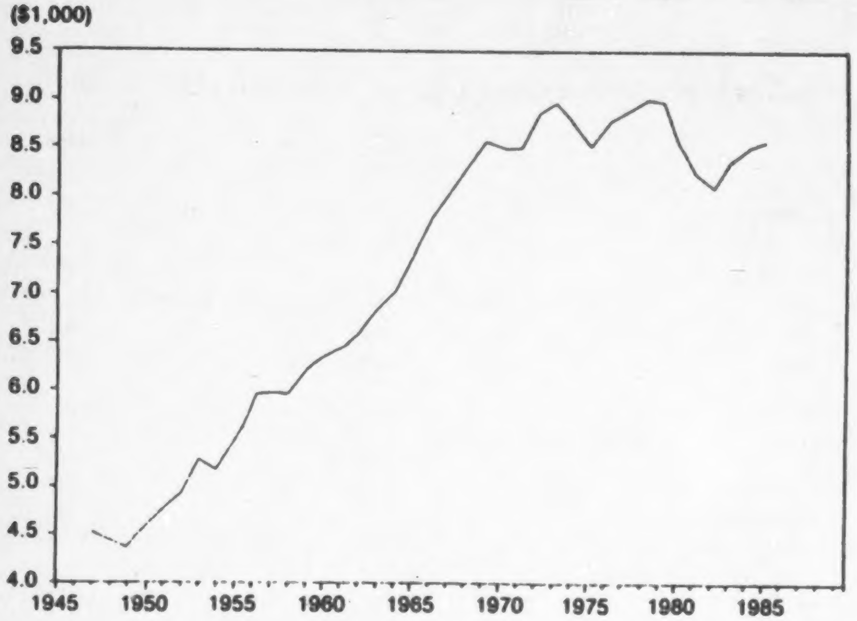

Figure 1

Median family income ($ 1967)

marked contrast. Real median family income in 1985 was at about the same level as in 1969, poverty as officially measured was higher, and the income share of the bottom 40 percent was lower than at any time in the postwar era. Since 1969, there have been eight positive year-to-year changes in the median, two years of no change, and six years of negative changes. And unemployment (column 4) throughout the 1980s has been high by historical standards.

Macroeconomic conditions since the early 1970s have refuted two key assumptions that guided antipoverty policy and views about economic growth and inequality. Conventional wisdom held that poverty could be alleviated against a background of healthy economic growth because the business cycle could be controlled. This was a reasonable assumption in the mid-1960s, as median family income growth had been positive for each year from 1958 to 1969. It was also believed that in an economy with low unemployment rates and with antidiscrimination policies and education and training programs in place, everyone—rich, poor, and middle class—would gain. At a minimum, it was expected that economic growth would be proportional and that all incomes

Table 2

Mean per capita income of quintiles of households (1985 dollars)

	1	2	3	4	5	Mean
Nonelderly families with children						
1967	$2,070	$4,348	$6,054	$8,172	$13,680	$6,864
1973	2,343	5,150	7,258	9,735	16,128	8,123
1985	1,743	4,529	7,096	10,139	17,784	8,256
% Δ 1967–1985	−16.23	+14.16	+17.21	+24.07	+30.00	+20.28
Elderly (65+) households						
1967	$1,954	$3,623	$5,200	$7,987	$18,889	$7,531
1973	$2,855	$5,013	$6,832	$9,909	$22,508	$9,424
1985	$3,455	$5,799	$8,243	$12,198	$25,852	$11,110
% Δ 1967–1985	+76.82	+60.06	+58.52	+52.72	+36.86	+47.52
Other nonelderly households						
1967	$3,231	$8,260	12,075	$16,637	$28,402	$13,721
1973	$4,024	$9,658	14,194	$19,641	$33,778	$16,259
1985	$3,624	$9,342	14,326	$20,433	$36,743	$16,894
% Δ 1967–1985	+12.16	+13.10	+18.64	+22.82	+29.37	+23.13
All households						
1967	$2,173	$4,760	7,192	$10,844	$21,535	$9,301
1973	$2,744	$5,951	8,774	$13,121	$26,674	$11,453
1985	$2,499	$6,099	9,508	$14,491	$28,713	$12,262
% Δ 1967–1985	+15.00	+28.13	+32.20	+33.63	+33.33	+31.84

Source: Computations by authors from March Current Population Survey Computer tapes.
Note: Each household is counted once. Quintiles are computed separately for each demographic group for each year. These three categories are mutually exclusive. Price adjustment is via the Consumer Price Index.

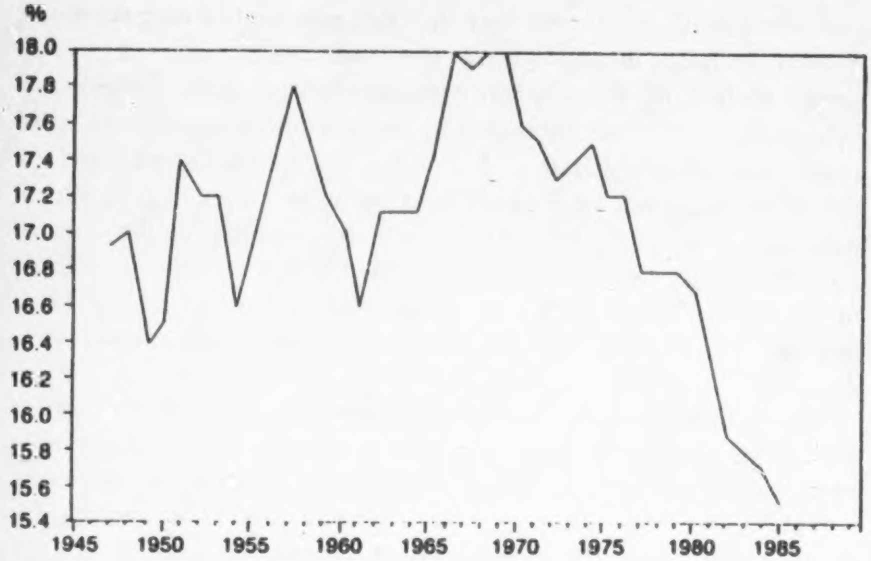

Figure 2

Share of bottom 40 percent of aggregate family income

would rise at about the same rate. At best, income growth for the poor would exceed the average rate, and poverty and inequality would continue to fall as they had in the prior decades.

Instead, despite the increase in government income transfer payments (column 5), poverty and inequality increased as growth faltered. But it would be incorrect to conclude from Table 1 that government transfers have been ineffective in reducing poverty and inequality. Most government transfers in the United States are targeted on the elderly, and, as the data in Table 2 indicate, the elderly experienced both an above-average income increase and a reduction in inequality during the period when aggregate income growth slowed. For the elderly, per capita income growth was fastest for the lowest quintile, and slowest for the top quintile. In contrast, the bottom quintile of households with children were actually worse off in 1985 than in 1967—their per capita income fell by 16.23 percent. Inequality among households with children increased, with the greatest income gains going to the highest quintile.

What are the underlying economic relationships among poverty and inequality, economic growth and government transfers? The simple story that emerges from this brief review of the data is that the early period of poverty and inequality reductions was due to strong economic growth, declining unemployment rates, and large increases in government transfers. All three factors contributed to decreasing poverty and inequality. The recent increases in poverty and inequality seem to result from offsetting factors. The rise in unemployment rates and the slowdown in growth were partially offset by increases in government transfers. Nonelderly households that receive little in the way of government transfers and are most affected by market conditions fared much worse than elderly households that receive relatively large amounts of transfers and are mostly insulated from market conditions.

Such simple stories, while plausible, ignore the inherent difficulty in separating the impact of demographics, changes in macroeconomic conditions, and growth in income transfers on poverty and inequality reduction. We now turn to a more rigorous attempt to account for changes in the level and distribution of income.

III. Conceptual links between economic activity, inequality, and poverty

The degree to which changes in economic activity affect the level and distribution of income depends crucially on the underlying economic process generating the change in economic activity. While declines in cyclical unemployment and economic growth both lead to increased economic activity, they have different impacts on inequality and poverty. Each reflects changes in conceptually different underlying processes which generate the income distribution.

Cyclical unemployment

Changes in economic activity arising from reduced cyclical unemployment have two important features. First, the mean of the income distribution unambiguously increases when cyclical unemployment decreases. Not only is the sign unambiguous, but the annual rate of increase is very rapid compared to annual increases in the mean associated with economic growth. For example, real mean family income grew by 3.3 percent between 1983 and 1984 and by 2.6 percent between 1975 and 1976, two sets of years of strong cyclical recovery from recessions. By contrast, real median family income grew by only 4.9 percent over the entire decade between 1969 and 1979. Since these are two years of close to full employment, this increase primarily reflects economic growth.

Reductions in cyclical unemployment also reduce the spread of the income distribution, leading to further reduction of inequality and poverty. The countercyclical change in the spread of the income distribution is consistent with economic theory. If employers share in the cost of training or screening, then they will find it to their advantage to institute a seniority-based layoff policy. The first to be laid off will be those in whom the firm has the least investment. These workers, who are either newly hired or working in firms which offer little training, are likely to be in the lower tail of the earnings distribution.

Thus, while there may still be substantial disagreement about the role of economic growth in reducing poverty, we know of no one who would seriously question the primary importance of tight labor markets in reducing poverty rates for persons able and willing to work. It is unambiguous that both the location and spread of the income distribution change in a poverty-reducing direction as a result of decreases in cyclical unemployment.

This discussion has emphasized increases in cyclical conditions. But, by definition, cycles are independent of the secular trend, and thus have a downside during which poverty and inequality increase. To the extent that economic policies can dampen the business cycle, they can moderate cyclical swings in poverty and inequality. But only secular changes can lead to permanent changes in the level and distribution of income.

Economic growth

As long as the fruits of economic growth are taken in the form of higher income, economic growth will be accompanied by increases in the mean of the income distribution. However, poverty will not necessarily decrease if growth is accompanied by a sufficiently large, offsetting increase in inequality. Unfortunately the impact of growth on inequality is not nearly as clear, either theoretically or empirically, as its impact on the mean of the distribution.

Growth and the distribution of income are the joint results of a complicated set of underlying economic processes, reflected in changes in supplies of and demands for factors of production. Arguments that inequality is necessary for growth or that growth necessarily reduces inequality ignore the process generating growth and inequality simultaneously. Any correlation between these two variables is likely to be spurious—it is not growth per se, but how that growth is achieved, which determines inequality.

Technological change and increases in the supply of labor or capital offer two routes to economic growth. They are, however, not on equal footing. Since the amount of labor or capital cannot be increased indefinitely, only technological change can offer a permanent increase in the rate of growth of output. The two also differ in the ways in which they affect the distribution of income.

Technological change may increase or decrease inequality. The initial impact of technological change is to alter the demands for labor and capital. This in turn changes prices, which may call forth a supply response as workers flow to those jobs for which demand and, hence, wages are greater.

While technological change may increase the demand for all skill classes, this is by no means necessary. The result may be an increase in both economic growth and poverty. For example, a labor-saving technological change may lower the demand for low-skilled workers. The resulting decrease in wages of those at the bottom of the distribution will have two effects—some workers will drop out of the labor force, while others will be induced to gain skills in response to the drop in the relative wages of unskilled workers. Whether or not poverty increases depends on the relative magnitude of these two changes.

Since it is by no means simple for government to alter the rate and form of technological progress, public policy has tended to focus on the intermediate goal of increasing the quantity and quality of labor and capital. Inasmuch as taxes reduce the supply of labor and capital, government may be able to raise the rate of economic growth by undertaking policies that increase the return to savings, education, and work.

These policies will increase average incomes; however, it is not clear what effect increases in demands for labor and capital will have on the shape of the distribution. Again the result depends on the form of the policies. For example, incentives to increase the rate of capital formation may increase both growth and poverty. The increased demand for capital will be accompanied by an increase in demand for high-skilled workers and a decrease in demand for low-skilled workers if capital is complementary with high-skilled workers and substitutable for low-skilled workers. Poverty will increase unless the labor-upgrading response to the resulting increase in the wages for high-skilled workers more than offsets the decreased wages for those who remain unskilled.

Williamson and Lindert (1980) review the evidence offered by American economic history. They show that the correlation between economic growth and inequality is weak. The nineteenth century was marked by rapid increases in output and in inequality. However, in the first half of the twentieth century a similarly rapid growth in output was accompanied by a trend toward income equalization. This demonstrates that simultaneous increases in output and inequality are more than a theoretical possibility, even in an industrialized country. In fact, some authors have suggested that the increased employment in "high-tech" industries in recent years has had similar effects.

There are at least two other factors that currently limit the inequality-reducing effects of economic growth in the United States. The first, the demographic composition of households, is likely to have similar effects in other advanced economies. The second arises from the fact the U.S. poverty line is fixed in real terms, so that the line falls as a percentage of real income.

Demographic factors

While an improvement in macroconditions can raise the earnings of poor households with an able-bodied head, it alone cannot raise incomes or eliminate poverty for households whose heads have weak attachments to the labor force. There are simply too many low-income households that cannot benefit directly from improved labor market conditions.

For example, in 1979, the last cyclical peak, almost two-thirds of households defined as poor by the official definition were headed by a person who was elderly, a student, disabled, or a woman with a child under six years of age. Given today's social norms, these heads of household can be classified as not expected to work. Indeed, almost all of them did not work during this year of relatively low unemployment. While these families will not gain directly from growth, they may benefit indirectly if a portion of the increased tax revenues resulting from growth are distributed through antipoverty programs.

The proportion of poor households not expected to benefit from economic expansion is not only large, but growing. In 1939, when poverty rates were much higher, less than one-third of poor household heads were classified as not expected to work by this definition. From a purely demographic standpoint, it was easier to reduce poverty through growth of the economy in the 1940s and 1950s than it is today.[1]

Nonlinear relationship between growth and poverty

Another factor limiting the impact of growth on poverty is that poverty, as officially measured in the United States, is simply the cumulative distribution of income up to a fixed line. As long as this poverty line falls to the left of the mode (the location of the most frequently occurring values) of the income distribution, fewer and fewer people will be taken out of poverty as the distribution shifts to the right. This results from the decreasing density of the distribution as one moves away from the mode. For example, the poverty line for a family of four was almost 80 percent of mean family income in 1949, but only about 40 percent in 1985. Suppose that all incomes increased by 2 percent a year for several years. All those households with incomes within 2 percent of the poverty line would exit poverty in each successive year, but the number leaving poverty would diminish each year. Thus, even if there were no changes in the demographic composition of the poor or in the shape of the income distribution, there would still be diminishing returns to economic growth. Of course, measures of relative poverty and inequality are not affected by this factor.

In summary, the debate over the role of economic growth in reducing poverty has tended to lump all forms of increased economic activity together. We argue that the source of increased economic activity is crucial. Decreased cyclical unemployment unambiguously decreases poverty, but pure economic growth has an ambiguous impact. Since theory leaves us with this ambiguity, we now turn to some empirical tests.

[1] This discussion is based on the assumption that demographic changes are exogenous. But if some portion of the demographic change is endogenous, then these conclusions must be modified. For example, some part of the increased tendency of the elderly to head their own households is due to their rapid income increases. Thus, rapid growth reduced poverty and inequality directly by raising incomes, but also led to offsetting changes that operated through increases in the total number of households. Similarly, slow growth in the recent period has contributed to rising poverty and inequality, but its effects have been mitigated by the increased labor force participation of wives and their resulting fertility declines, which were undoubtedly partially caused by the reduction in economic growth.

IV. Empirical patterns

Secular Growth.[2]

Using data from the Censuses of Population of 1950 through 1980, we first review the relationship between poverty and the location and shape of the income distribution. Since the effects of cyclical swings become less important over these ten-year periods, we interpret these changes in poverty as reflecting secular changes. Because 1969 and 1979 were both cyclical peaks, this interpretation is particularly appropriate for the last decade covered.

We analyze data for households headed by men aged 25 to 64. Relative to other households, they have the strongest attachment to the labor force and the smallest reliance on government transfers. They are, therefore, the group most likely to benefit directly from economic growth. A focus on prime-aged men also provides a rough correction for demographic change by excluding households headed by women, who have above-average poverty rates and represent an increasing proportion of all households.

Because the poverty line varies with family size, poverty will fall if family size declines, even if household income is constant, *ceteris paribus*. To control for the decline in family size that has occurred, we analyze the ratio of a household's income to its poverty line (the income-to-needs ratio).

The first three rows of Table 3 show the mean and log variance of the income-to-needs ratio and the official poverty rate in each of the Census years. The log variance is an inequality measure which is sensitive to changes in the lower tail of the distribution. Note, however, that it measures only one aspect of change in the shape of the distribution, since it does not reflect changes in other moments.

Rows 3 and 1 show that poverty declined when the mean increased and that the declines in poverty and the increases in the mean became successively smaller with each passing decade. At this superficial level, it seems that a rising tide was indeed lifting all boats. Such bivariate relationships do not, however, hold other factors constant.

The observed change in poverty over each decade is decomposed into one component associated with shifts in the mean (row 4), and another with changes in the shape (row 5). The following thought experiment illustrates this decomposition. First, suppose that every

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[2] This section is drawn from Danziger and Gottschalk (1986).

Table 3

Secular growth and the trend in the official (posttransfer) poverty rates for households headed by men aged 25–64, selected years, 1949–1979

	Year			
	1949	1959	1969	1979
1. Mean income/needs[a]	1.600	2.408	3.330	3.789
2. Variance *ln* (income/needs)[a]	.738	.771	.627	.730
3. Poverty rate	33.1%	16.2%	7.7%	7.1%
Change in poverty rate due to:[b]				
4. Change in mean	---	−13.8%	−6.1%	−1.3%
5. Change in shape (inequality of income)	---	−3.1%	−2.4%	+0.7%
6. Percentage-point decline in poverty due to a one percent increase in the mean holding inequality constant[c]	−0.77	−0.28	−0.12	−0.09

Source: Computations by authors from computer tapes of the 1950, 1960, 1970 and 1980 Census of Population.

[a] Because the poverty lines are adjusted for changes in the Consumer Price Index (CPI), income/needs ratios are fixed in real terms. Poverty in 1949 is derived by adjusting the official lines back from 1959 using the CPI in the same way that they have been brought forward to the present.

[b] The percentage-point difference between the poverty rates over any decade equals the sum of rows 4 and 5 in the column for the latter year.

[c] Defined as the percentage point difference between the actual poverty rate in each year and a rate that results from increasing each household's income-to-needs ratio in the base year by 1 percent.

household experienced the average increase in income in relation to needs. There would be no change in inequality and, as the distribution shifted to the right, poverty would drop. The difference between the initial-year poverty rate and this simulated rate gives the change in poverty when inequality is held constant.

Second, the effects of changes in inequality are obtained by comparing this simulated distribution to the actual distribution in the later year. By construction, the means of the two distributions are the same. However, if the actual distribution is less equal than the simulated distribution, changes in the shape will have increased poverty. By definition, the actual change in poverty over the decade is the sum of these two partial effects.

Row 4 of Table 3 shows how poverty rates would have changed if all households had experienced the average growth in the income-to-needs ratio. A rising mean was the primary cause of the reduction in poverty over the thirty years. However, the antipoverty effect of growth in the mean decreased in each successive decade (row 4), primarily because of the falling rate of secular growth (row 1).

In addition, the antipoverty effect of growth declined because of the nonlinear relationship between growth and poverty. Row 6 shows the percentage-point decline in the poverty rate associated with a 1 percent increase in the mean, holding inequality constant. As poverty declined from 33.1 to 7.1 percent between 1949 and 1979, this measure of the antipoverty effect declined from -0.77 to -0.09 percentage points. Thus, a given percentage increase in the mean removed a much smaller number of households from poverty as the poverty rate declined.[3]

Row 5 shows the impact of changes in inequality, holding the mean constant. The changes in poverty due to changes in inequality were much smaller than those due to growth in the mean (compare rows 4 and 5). However, between 1969 and 1979, two years of comparable unemployment rates, the change in the shape of the distribution was poverty-increasing, and offset roughly half of the poverty-decreasing effect of the rising mean.

Differences by race and region

What has happened in recent years? To answer this question, Table 4 presents a similar analysis using Current Population Survey data for the period 1969–1984 for households headed by white and black males in each of the four census regions. In this table, poverty is measured prior to the receipt of government transfers. During this period there were some very large mean income increases in some regions in some subperiods, as well as some income declines (see columns 1 and 4). For example, between 1969 and 1973, the mean income-to-needs ratio for blacks grew by almost 20 percent in the North Central and Southern

[3] If a distribution is unimodal, a constant absolute increase in the mean will by definition yield a declining percentage point change in poverty.

Row 6 shows that a constant percentage increase in the mean also has a declining impact. In fact, the elasticity—the percentage decline in poverty with respect to a constant percentage increase in the mean—also declines (data not shown).

Table 4

Simulated percentage-point change in pretransfer poverty rate due to changes in the mean and shape of the distribution of income/needs[a], male household heads, ages 25–64

	Whites			Blacks		
		Change in Poverty due to changes in:[c]			Change in poverty due to changes in:[c]	
Region	Growth of mean[b] (1)	mean (2)	shape (3)	Growth of mean[b] (4)	mean (5)	shape (6)
Northeast						
1969–1973	8.7%	−0.59%	+0.80%	6.5%	−0.94%	+0.37%
1973–1979	2.3	−0.19	+1.75	−1.8	+0.68	+6.89
1979–1984	4.5	−0.36	+2.51	4.5	−0.34	+1.31
Total 1969–1984	16.3	−1.14	+5.06	9.3	−0.60	+8.57
North Central						
1969–1973	10.2	−0.91	+0.99	21.0	−3.09	+3.20
1973–1979	2.8	−0.17	+0.98	2.3	−0.40	−0.38
1979–1984	−5.6	+0.57	+3.51	−5.9	+1.51	+9.43
Total 1969–1984	6.9	−0.51	+5.48	16.5	−1.98	+12.25

Region	Whites			Blacks		
	Growth of mean[b] (1)	Change in Poverty due to changes in:[c]		Growth of mean[b] (4)	Change in poverty due to changes in:[c]	
		mean (2)	shape (3)		mean (5)	shape (6)
South						
1969–1973	13.3	−1.71	+1.02	18.6	−6.43	+1.69
1973–1979	1.3	−0.11	+1.53	17.3	−6.01	+0.74
1979–1984	5.3	−0.77	+2.28	3.2	−0.50	+1.78
Total 1969–1984	20.9	−2.59	+4.83	43.5	−12.94	+4.21
West						
1969–1973	6.7	−0.66	+1.49	2.6	−0.82	+5.96
1973–1979	3.5	−0.26	+0.47	11.3	−0.98	+3.00
1979–1984	−0.3	+0.08	+2.57	−8.5	+0.54	−0.65
Total 1969–1984	10.1	−0.84	+4.53	4.5	−1.26	+8.31

[a] The percentage-point difference in the actual poverty rate over any period equals the sum of the columns "change in mean" and "change in shape."

[b] Defined as 100 times the later year mean of income/needs less initial year mean divided by initial year mean. Because the base is different for each subperiod, the total change for 1969–1984 does not equal the sum of the changes for the three subperiods.

[c] The actual changes in poverty between 1969 and 1984 by race and region were as follows. For whites, poverty increased from 4.91 to 8.83 percent in the Northeast; from 5.34 to 10.31 percent in the North Central region; from 9.58 to 11.82 percent in the South; and from 6.94 to 10.63 in the West. For blacks, poverty increased from 11.82 to 19.77 percent, from 12.39 to 22.66 percent, declined from 31.90 to 23.16 percent, and increased from 10.95 to 18.00 percent in these four regions.

regions, while the mean grew very slowly for blacks in the West. Between 1979 and 1984, real income declined significantly for whites and blacks in the North Central region and for blacks in the West.

The results of the thirty-year period are confirmed: when growth of the mean is rapid, *ceteris paribus*, poverty falls rapidly (columns 2 and 5). But in almost all cases, poverty-increasing changes in the shape of the distribution after 1969 were greater than the poverty-reducing changes in the mean. The only exception is for blacks in the South.

Over the 1969–1979 period, income growth was so rapid there that it offset the poverty-increasing changes in the shape. Note also that all 16 rows for whites (column 3) and 14 of 16 rows for blacks (column 6) have positive signs, indicating poverty-increasing changes in the shape. Again, this is in stark contrast to the poverty-reducing changes in the shape that characterized the 1949–1969 period (see row 5 of Table 3).

Black poverty has been somewhat more responsive to changes in the mean than has poverty among all persons because black poverty is at a higher level (i.e., because of the nonlinear relationship between growth and poverty) and because black incomes have grown somewhat faster than average.

Differences by race and sex

While the results in Tables 3 and 4 are based on a simulation methodology, Table 5 uses a more complex methodology to disentangle the antipoverty effects of market income and transfer income. The methodology, fully described in Gottschalk and Danziger (1985), focuses directly on the relationship between changes in poverty and changes in the joint distribution of market income and transfer income. Poverty is viewed as changing because of shifts in the level and distribution of each income source. These shifts can be described by changes in the means, variances, covariances, and higher-level moments of the distribution of market and government transfer income.

For expositional simplicity, changes in poverty for nonaged families with children are attributed in Table 5 to three factors: changes in mean market income, changes in mean transfer income, and changes in the shape of the distribution. The first row shows the actual percentage-point changes between 1968 and 1983 in poverty rates for the four family types. During this period poverty declined for nonwhites, but rose for whites.

Table 5

Decomposition of official poverty rate for nonaged white and nonwhite heads of households with children, 1968 to 1983

	Persons living in households where head is:			
	Nonwhite		White	
	Male (1)	Female (2)	Male (3)	Female (4)
1 Actual percentage-point change in poverty[a]	−2.8	−2.5	3.8	3.6
Percentage-point change in poverty due to change in:				
2 Mean market income	−8.0	−6.7	−1.5	−0.5
3 Mean transfer income	−2.1	2.9	−0.5	2.7
4 Shape (inequality of income)	7.3	1.3	5.8	1.4

Source: Computations by authors. See Gottschalk and Danziger (1985) for discussion of methodology.

Note: In each column, the sum of rows 2, 3, and 4 equals the actual percentage-point change. The actual percentage-point change is the difference between the 1983 and 1968 poverty rates for each demographic group.

[a] Between 1968 and 1983, the official poverty rate declined from 23.4 to 20.6 percent for nonwhite males and from 65.8 to 63.3 percent for nonwhite females; the rate increased from 6.6 to 10.4 percent for white males and from 39.6 to 43.2 percent for white females.

Row 2 shows the impact of changes in mean market income on the poverty rate of each subgroup. Increases in mean market income were much more important for nonwhites—the poverty rates for nonwhite males and females would have decreased by 8.0 and 6.7 points, respectively, as a result of changes in mean market income. The corresponding figures for whites are only 1.5 and 0.5 points.

Row 3 shows the impact of income transfers. For females, the antipoverty effect of changes in transfers during this period is similar among whites and nonwhites. Both would have experienced an almost 3-percentage-point increase in poverty solely as a result of their reduced real cash transfers. For males, transfers rose over this period. The poverty-reducing impact of increased transfers is considerably higher for nonwhites (-2.1 points) than for whites (-0.5 points).

Row 4 shows the importance of increased inequality of income within each demographic group. Consistent with the results in Tables 3 and 4, these data show that increased inequality was important for all groups, but especially important among both nonwhite and white men. Since income transfer growth for the nonelderly has been virtually halted in the United States by the budgetary retrenchment of the 1980s, it is unlikely that transfers can offset the tendency toward inequality that has accompanied the slower economic growth of recent years.

V. Explaining increases in inequality: what we know and what we don't

The preceding sections have shown that the increase in inequality since the early 1970s has been large and has had a substantial impact on poverty. Whereas the driving force behind poverty reduction during the 1950s and 1960s was rapid economic growth, that situation has changed. As a result, slow growth in mean income and increased inequality have contributed significantly to the rising poverty rates of the late 1970s and early 1980s.

These facts are clear. What is much less well understood is why inequality has increased. In this section we review several alternative explanations which have been offered. Unfortunately, while each has some merit, none can fully explain the observed trend. And no research to date has systematically decomposed the trend into components due to these or other factors.

Cyclical changes

It is well known that inequality is cyclically sensitive (see Blinder and Esaki, 1978; Blank and Blinder, 1986). During recessions people in the lower tail of the distribution experience disproportionately large declines in income and people in the middle income group are more likely to experience income losses than are high-income people. The result is a countercyclical pattern in inequality.

The 1970s and 1980s have been a period of unusually large cyclical swings. How much of the increased inequality reflects nothing more than the expected response to the cycle? The data suggest that we are experiencing something more profound.

First, poverty increased between the cyclical peaks of 1973 and 1979 (Danziger and Gottschalk, 1986). Furthermore, in 1987, after four years of economic recovery with median family incomes above their previous cyclical peak, the poverty rate remained 2.4 percentage points above its historic low of 11.1 percent, which occurred in 1973.

Second, the fastest-growing regions, which experienced relatively modest cyclical changes during the recent recessions, still had large increases in inequality. As shown in Table 4, the mean income of males in the South grew by 5.3 percent for whites and 3.2 for blacks between 1979 and 1984, while inequality grew among both groups. Since inequality increased both over time and space when income levels rose, something other then cyclical swings must account for the change.

Changes in cohort size

The second explanation focuses on demographic changes associated with the baby boom, followed by the baby bust. This view emphasizes the fact that the groups which grew the fastest were the young and old, whose mean incomes tend to be at the two extremes of the earnings distribution. Such a demographic shift would increase inequality among all workers. Furthermore, the variance of income within age groups also tends to be highest for the young and old, again contributing to increased inequality.

The problem with this explanation is that inequality has also increased within experience groups—the young do have an above-average degree of inequality in any year, but inequality among them has increased over the recent period. In fact, Dooley and Gottschalk (1984) find that inequality grew even after controlling for experience, education, unemployment and a variable measuring a possible behavioral response to increases in cohort size. One can thus only explain some of the increased inequality by demographic changes.

Changes in female headship

It is well known that families headed by nonmarried women have considerably lower incomes than their male counterparts and that female headship has grown substantially over the past two decades. By itself, this demographic change would lower mean income and increase inequality among all families. But because inequality has also increased within both married-couple families and female-headed ones, this factor, like cohort size, offers only a partial explanation.

Changes in government income transfers

An alternative explanation focuses on adverse behavioral responses to government income transfers. This view, popularized by Murray (1984), argues that increased benefits, especially in income-tested welfare programs, had such large work-disincentive effects that the total incomes of the poor actually fell.

Elsewhere (Danziger and Gottschalk, 1985b) we have shown that trends in welfare spending are inconsistent with this view. Historically, the real value of welfare benefits increased most between 1960 and the mid–1970s, but fell thereafter. Although this rise provides the basis for the increased negative family and work effects attributed to social programs, there were no reversals in the trends of either family composition or work effort after real benefits began to fall.

While such time-series data are suggestive, they do not resolve the debate about the relative importance of poor economic performance or the disincentive effects of transfers in explaining the trend in poverty. There is, however, an extensive experimental literature (see Burtless, 1986) that shows that the magnitudes of the labor-supply and family-structure effects of transfers are much smaller than those required to confirm Murray's hypothesis.

Changes in industrial structure

Bluestone and Harrison (1986) and others have attributed increased inequality to changes in industrial structure. It is claimed that the loss of manufacturing jobs and the increased service sector employment have reduced the percentage of high-paying production-line jobs and increased the percentage of low-wage service jobs.

The problem with this explanation is that it can be tailored to fit the facts. If industries and occupations are defined sufficiently narrowly, then each person is his/her own unique group and all changes in inequality are attributable to changes in industrial structure by definition. However, if industries and occupations are defined broadly, then this explanation is incomplete because inequality has also increased within various sectors (see Beach, 1988, for a review). Without a theoretical construct to guide decisions about the appropriate level of aggregation, discussions about the role of deindustrialization remain problematic.

In sum, inequality has increased over time and within various demographic, geographic, and sectoral groups during the 1970s and 1980s. These inequality increases have been well documented, but their causes have not been fully explained.

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HOW THE RICH HAVE FARED, 1973-1987

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Historically, income inequality has increased during recessions and declined during recoveries. This cyclical pattern, however, does not characterize the period since 1973. After five years of the current recovery, inequality is greater than it was during the last recession, and much greater than in 1973.

In this paper, we examine trends in inequality and focus on the income changes of those at the top of the distribution, who we label "the rich" and define as persons living in families with incomes at least nine times the poverty lines (about $95,000 for a family of four in 1987). We show that since the 1973 cyclical peak, the ranks of the rich have more than doubled, with rising mean income accounting for about half of the increase and changes in the shape of the income distribution accounting for the other half. Furthermore, the increased mean of family income is not primarily due to increased earnings of male family heads, but rather to increased earnings of wives.

I. THE CONVENTIONAL WISDOM

Our findings of increased inequality during the current recovery are in marked contrast to the experience of the two post-War decadas, when inequality cycled around a stationary trend. The conventional wisdom (e.g., Edward Gramlich, 1974; Rebecca Blank and Alan Blinder, 1986) holds that inequality is countercyclical. During recessions, employers retain the most experienced workers as demand declines. The newly-hired and least-skilled, who have below-average earnings, are laid off and experience disproportionate income losses. Recoveries are characterized by increased employment of the least-experienced.

Such countercyclical swings in inequality have characterized most recoveries, but not the current one. Not only is the direction of change counter to the conventional wisdom, but the magnitude is substantial. We document the difference between expectations and actual experience by using Blank and Blinder's results.

They estimated, for the 1948-1983 period, a model which describes how the income share received by each quintile of families varied over the business cycle. Then they predicted what the income distribution would look like in 1989, given several scenarios. Their optimistic scenario, about which they said "...it is most unlikely for the economy to grow for seven years without a recession (p. 206)", used inflation and unemployment rates for 1989 that are quite similar to their actual 1987 values.

Table 1 shows the actual Census data on the income share received by each quintile of families in 1973, 1983 and 1987 in columns (1)-(3). As expected, inequality increased between 1973 and 1983, a period of falling real family income and increasing unemployment. Blank and Blinder's predicted changes in quintile shares for the 1983-89 period are shown in column (4); the actual change between 1983 and 1987, in column (5). Even though family income increased and inflation and unemployment declined, inequality increased between 1983 and 1987. The 1987 income shares received by the lowest and the highest quintiles deviate the most from the Blank-Blinder predictions.[1] The income share of the lowest quintile fell to 4.6 percent instead of rising to 5.3

Table 1 Changes in the Distribution of Family Income, 1973-1987

	Income Share:			1983-1987 Change in Income Share	
Quintile	1973 (1)	1983 (2)	1987 (3)	Blank-Blinder Prediction (4)	Actual (5)
Lowest	5.5%	4.7%	4.6%	+0.6%	-0.1%
Second	11.9	11.1	10.8	-0.2	-0.3
Third	17.5	17.1	16.9	+0.1	-0.2
Fourth	24.0	24.4	24.1	0.0	-0.3
Highest	41.1	42.7	43.7	-0.8	+1.0%

Source: For columns (1), (2) and (4), Blank and Blinder (1986); for columns (3) and (5), U.S. Bureau of the Census (1988).

percent and the share of the top quintile increased to 43.7 percent instead of falling to 41.9 percent.

Why are these projections so far off the mark? Why has an economic recovery, atypical in length, had such an atypical impact on inequality? What are the sources of the increased inequality? To answer these questions, we examine in detail the sources and distribution of income since 1973.

II. THE TREND IN INEQUALITY

We use data from the March 1974, 1980, 1983, and 1988 Current Population Survey computer tapes to measure the level and distribution of income over the cycle.[2] To focus attention on economic changes, we concentrate on those whose economic status is most affected by the economy--persons living in families (we consider unrelated individuals to comprise single-person families) headed by a man under the age of 65. Our results are thus not affected by the increased percentage of persons living in families headed by women, who have lower than average incomes, and have fared badly in recent years, or by the increased percentage of persons living in families headed by the elderly, who have fared quite well over this period, but whose incomes are insensitive to cyclical conditions.

We divide each family's income by its poverty line to correct for family size differences in each year and to account for the decline in family size over the period.[3] This adjustment, for example, considers a four person family and a two-person family to be equally well-off when the smaller family's income is about two-thirds that of the larger family. We weight family income divided by the poverty line by the number of persons in each family[4] and we adjust for price changes using the CPI-X1.[5] Our definition of adjusted family income thus responds to several criticisms of the published census data.

Table 2 presents the mean and median of adjusted family income and the income share of each decile of persons.[6] Between 1973 and 1979, two cyclical peaks, the mean increased by 7.4 percent, from 3.63 to 3.90 times the poverty line. The income shares of the bottom three and the top deciles declined, while that of the other six deciles increased. Between 1979 and 1982, the mean decreased by 4.1 percent, to 3.75 times the poverty line, and inequality increased. The income shares of the first seven deciles declined, while those of the top three increased. The share of the lowest two deciles fell by 15 percent, from 6.44 to 5.47 percent of total income.

The mean grew rapidly during the 1982-1987 recovery, rising by almost 16 percent to 4.33 times the poverty line, above its level at the 1973 peak. But the trend in inequality was atypical for a recovery. Inequality increased as the income shares of the second through seventh deciles declined. By 1987, the combined income share of the lowest two deciles was about 20 percent below its 1973 value. The income share of the top two deciles increased during the recovery, and at 41.7 percent of total income, was about 5 percent above its 1973 share.[7] Thus, the ratio of the income share of the top two deciles to that of the bottom two increased from 5.87 to 7.72 over the fifteen year period.

Table 3 focuses on the mean of adjusted family income at several points in the distribution. The first three rows show growth in the mean for the bottom five deciles, the top decile and the top one percent

Table 2 Changes in the Distribution of Adjusted Family Income for Persons Living in Families Headed by Nonelderly Males, Selected Years, 1973-1987[a]

	Adjusted Family Income Share of Each Decile[b]			
Decile	1973	1979	1982	1987
Lowest	2.31%	2.10%	1.64%	1.67%
2	4.47	4.34	3.83	3.73
3	5.82	5.77	5.35	5.22
4	6.95	7.01	6.63	6.56
5	8.07	8.22	7.98	7.86
6	9.29	9.51	9.37	9.28
7	10.71	11.03	10.99	10.91
8	12.56	12.91	13.07	13.07
9	15.36	15.64	16.19	16.25
Highest	24.45	23.46	24.94	25.45
Mean[c]	3.63	3.90	3.74	4.33
Median[c]	3.13	3.45	3.25	3.69

Source: Computations by authors from March 1974, 1980, 1983, and 1988 Current Population Survey computer tapes

[a] The income of each family is divided by its official poverty line and weighted by the number of persons in the family. Each decile includes the same number of persons.

[b] Decile shares may not add to 100.00 due to rounding.

[c] Constant 1987 dollars using CPI-X1.

Table 3 Sources of Change Between 1973 and 1987 in Adjusted Family Income for Persons Living in Families Headed by Nonelderly Males

	Mean Adjusted Family Income of:[a]		
	Bottom Five Deciles	Top Decile	Top One Percent
Mean[b]:			
1973	1.997	8.852	16.052
1987	2.161	10.992	18.947
Percentage Change	8.21%	24.18%	18.04%
Proportion of Increase in Mean Due to:			
Earnings of Male Head	-78.9	19.9	-50.1
Earnings of Wife	126.2	50.6	95.1
Earnings of Others	8.0	1.3	-2.1
Property Income	11.9	22.2	45.8
Gov't. Transfers	17.1	1.0	2.2
Other Income	15.7	5.0	9.2
Total[c]	100.0	100.0	100.0

Source: Computations by authors from March 1974 and 1988 Current Population Survey computer tapes.

[a] Family income divided by the poverty line and weighted by the number of persons.

[b] Constant 1987 dollars using the CPI-X1.

[c] May not add to 100.0 due to rounding.

of persons. The remainder of the table allocates this growth among six sources of income.

Between 1973 and 1987, the mean for persons in the lower half of the distribution (column 1) increased from about 2.00 to 2.16 times the poverty line. This 8.2 percent increase is well-below the 24.2 percent increase of the top decile and the 18.0 percent increase of the top one percent. These differences are another way to view the growing inequality shown in Table 2.

What is striking is that for each of the three groups, the primary source of income growth was not the earnings of the male head, but the earnings of the wife. In fact, the mean real earnings of family heads in the bottom half of the distribution declined between 1973 and 1987. While it has been well-documented that the increased earnings of wives have been an important source of support for those at the bottom of the distribution (Sheldon Danziger and Peter Gottschalk, 1985), Table 3 shows the importance of wives' earnings throughout the distribution--over fifty percent of the income growth experienced by the top decile reflected higher earnings by wives.

Surprisingly little of the growth in the mean reflects higher property income, even for the top decile. Despite higher real interest rates and an increased ratio of interest to earned income in the 1980s, increased property income accounted for only 22.2 percent of the growth in the mean income of the top decile. It is only for the top one percent of persons that increased property income was an important source of growth. For them, almost half of the increase in the mean was attributable to higher property income.

III. A FRAMEWORK FOR EVALUATING CHANGES IN THE PERCENT "RICH"

Between 1973 and 1987, the percentage of persons living in families with incomes exceeding nine times their poverty lines (as defined by the CPI-X1) more than doubled from 3.1 to 6.9 percent. We label these persons who have incomes above a fixed absolute threshold "the rich." This is analogous to the official definition of poverty which counts the poor as persons with incomes below a fixed threshold (by definition, one times the poverty line). Any such threshold for defining the rich is arbitrary, but our results are not sensitive to our using a threshold of seven or eight instead of nine times the poverty line.

The proportion rich is affected by both the level and shape of the income distribution--as mean incomes grow or inequality increases, the proportion rich increases. According to the conventional wisdom, increases in the percent rich are driven by increases in the mean during recoveries, not by increased inequality. But, as we have shown, the latest recovery was not typical, as inequality as well as average incomes increased. Since both the higher mean and the higher inequality increase the proportion rich, we ask, "what portion of the doubling in the ranks of the rich was due to economic growth?"

A. METHODOLOGY

To address this question, we decompose the observed change in the proportion rich into four components: changes associated with growth in (1) the mean earnings of male household heads, (2) the mean earnings of wives and other earners, (3) the mean of a residual category, composed of property income, government transfers,and other income, and (4) changes in the shape of the distribution. The three income categories were chosen to reflect the three most important income sources shown in Table 3.

Our decomposition, described in Gottschalk and Danziger (1985), is based on the fact that the proportion rich is determined solely by the location and shape of the income distribution. More formally, the proportion rich, R can be defined as:

$$(1) \quad R = 1 - \int_0^{T} \int_0^{T-I_3} \int_0^{T-I_3-I_2} g(I_1, I_2, I_3, m)\, dI_1 dI_2 dI_3$$

where I_1, I_2, and I_3 are the three sources of adjusted income, T is nine times the poverty line, and g is the joint density function of I_1, I_2, and I_3, defined in terms of a vector of moments, m.

Writing the total differential of the proportion rich with respect to its k moments,

$$(2) \quad dR = \sum_{i=1}^{k} (\partial R/\partial m_i)\, dm_i$$

allows us to decompose the total change in R into changes due to each of the moments.

To determine the relative effects of observed changes in the moments of the distribution on R, we chose the displaced lognormal distribution as the functional form for g. This three-parameter distribution is more general than the lognormal and also corrects for the negative skewness found in the distribution of log income.

Thus, our decomposition requires only measures of changes in each of the three moments, dm_i, and an evaluation of the derivatives, $\partial R/\partial m_i$.

For example, we ask how much did the mean of each income source change and what was the impact of this change on the proportion rich?

B. RESULTS

Table 4 presents the data needed for our decomposition. The first column shows that the proportion rich increased from 3.1 to 3.7 percent, during the 1973-1979 peak-to-peak period, increased slightly to 3.2 percent during the 1979-1982 recessionary period, and rose to 6.9 percent by 1987. The next six columns present the means and coefficients of variation for the three income sources. The mean of heads' earnings rose by only 4.83 percent over the entire 15 year period. In contrast, the mean earnings of wives and other family members rose by more than 55 percent and the mean of the residual category, comprised mainly of property income, increased by 75 percent. Thus, the almost 20 percent growth in the mean of adjusted family income was not much affected by changes in the mean of head's earnings.

On the other hand, the increased coefficient of variation of adjusted family income over the fifteen years primarily reflects the 20 percent increase between 1979 and 1982 in the coefficient of variation of heads' earnings, shown in column 3.[8] Despite our sample's focus on those most likely to benefit from the recovery, inequality of head's earnings was as high in 1987 as it was in 1982. The coefficient of variation for the other two income sources declined over the fifteen years.

Table 5 shows the results of our decomposition for three subperiods and for the fifteen year period. Column 1 shows the actual percentage point change in the proportion rich. The next three columns

Table 4 Level and Distribution of Adjusted Family Income for Persons Living in Families Headed by Nonelderly Males, by Source, Selected Years, 1973-1987[a]

	Percent "Rich"[b]	Heads' Earnings		Earnings of Others[c]		Property and Other Income[d]		Adjusted Family Income	
		Mean	Coef. of Var.	Mean	Coef. of Var.	Mean	Coef. of Var.	Mean	Coef. of Var.
1973	3.1	2.69	0.85	0.70	2.09	0.24	8.88	3.63	0.44
1979	3.7	2.69	0.80	0.86	1.69	0.35	6.93	3.90	0.40
1982	3.8	2.90	0.67	0.86	1.72	0.39	5.90	3.75	0.48
1987	6.9	2.82	0.68	1.09	1.63	0.42	7.19	4.33	0.51
Percent Change, 1973-1987	+122.58	+4.83	-20.00	+55.71	-22.01	+75.00	-19.03	+19.28	+15.91

Source: Computations by authors from March 1974, 1980, 1983, and 1988 Current Population Survey computer tapes

[a] Family income divided by the poverty line, weighted by the number of years, and in 1987 dollars using the CPI-X1.

[b] Percent of persons living in families with adjusted family income at least nine times the adjusted poverty line.

[c] Earnings of wives plus other family members.

[d] Income from interest, dividends, rent, government transfers, private pensions, etc.

Table 5 Decomposition of Changes in the Percentage "Rich"[a]

	Actual Percentage Point Change	Estimated Change due to Change in: Mean of Head's Earnings	Mean of Others' Earnings	Mean of Property Income	Shape of the Distribution
1973-1979	+0.6	+0.01	+0.30	+0.22	+0.07
1979-1982	+0.1	-0.38	+0.00	+0.08	+0.40
1982-1987	+3.1	+0.95	+0.69	+0.08	+1.38
1973-1987	+3.8	+0.58	+0.99	+0.38	+1.85

[a] Persons living in families with adjusted family income at least nine times the adjusted poverty line.

show the estimated effects of changes in the means of the three income sources; the last column, the effect of changes in all higher level moments.

Column 2 shows that the increased earnings of males was not the primary source of growth in the proportion rich. If the only change in the distribution of adjusted family income had been growth in the mean earnings of family heads, the proportion rich would have grown by 0.58 percentage points between 1973 and 1987, instead of the observed 3.8 points. Even during the 1982-1987 recovery, growth in the earnings of male family heads accounted for less than a third of the increase in the proportion rich.

The remaining three columns show the relative importance of the earnings of wives, property income and changes in the shape of the distribution of income. Between 1973 and 1979, increases in the earnings of others (primarily wives) and increased property income were roughly equally important, and more than 20 times as important as increased heads' earnings, in accounting for the 0.6 point rise in the proportion rich. During the 1979-1982 recession, the mean earnings of heads declined and neither of the two other income sources increased significantly. What kept the proportion rich from falling was the increased inequality that accompanied the recession--changes in the shape of the distribution increased the proportion rich by 0.40 points, enough to offset the 0.38 decline associated with the decline in the mean of heads' earnings. During the 1982-1987 recovery, growth in heads' earnings accounted for about a third of the increase in the proportion rich, while the earnings of others accounted for a little less than a quarter. Most important was increased inequality, which accounted for 1.38 of the 3.1 point increase. Thus, since 1979, increased inequality accounted for more than half (1.78 out of 3.2 points) of the growth in the proportion rich.[9]

IV. SUMMARY

While the 1973-1979 peak-to-peak period was one of relatively slow growth in the mean, inequality fell slightly. The 1979-1987 period has been one of more rapid growth in the mean. As expected, inequality increased between 1979 and 1982. But, in contrast to the conventional wisdom, the current recovery has been atypical--inequality has continued to increase and is now higher than at any time since 1973. Although the mean earnings of nonelderly male family heads increased by less than 5 percent between 1973 and 1987, the proportion rich more than doubled due to increases in the mean of wives' earnings and increased inequality.[10]

Inequality is now higher than it has been at any point in the post-World War II period. Given the experience of this recovery and the possibility of a recession in the near-term, the prospects for reversing this trend seem rather dim.

Notes

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[1] Published Census data overstate the increase in income inequality over the 1983-1987 period because of revisions in the March CPS income supplement questionnaire (U.S. Bureau of the Census, 1986, pp. 4-5). Beginning with the 1985 income year, the maximum value for earned income that the Census coded was increased from $99,999 to $299,999. According to the Bureau, this raised the income share of the top quintile of families in 1985 by 0.6 percentage points, reduced the share of each of the bottom 3 quintiles by 0.1 point, and reduced the share of the fourth quintile by 0.2 points. If one applied these differences to the 1987 published shares shown in Table 1, then Blank and Blinder will have understated the gain in the share of the lowest quintile by 0.6 instead of 0.7 percentage points and overstated the change in the share of the top quintile by 1.2 instead of 1.8 percentage points.

[2] The income data are for two peaks, 1973 and 1979, the latest-available year, 1987, and 1982, a trough.

[3] Our sample includes 76, 72, 71, and 70 percent of all persons in the four years. Mean family size for our sample declined from 3.32 in 1973 to 2.87 in 1987. The Congressional Budget Office (1988) in its study of trends in family income also uses the official poverty lines to adjust for differences in family size.

[4] While there has been much discussion of equivalence scales--that two families with the same income, but different family sizes are not equally well-off--there has been little discussion of the conventional procedure for counting each family, regardless of size, once. The official measure of poverty, however, weights each person, and not each family, equally. Sheldon Danziger and Michael Taussig (1978), using CPS data, showed that weighting by persons instead of by families lowered inequality in 1967 and 1976. We weight by persons to be consistent with the way poverty is measured and because this is consistent with individualistic social welfare functions.

[5] The Consumer Price Index (CPI) used in the 1970s to correct the Census Bureau's income series for inflation is generally thought to have overstated the rate of growth of prices and understated growth in real incomes. Until 1982, the CPI measured housing costs in such a way that it included both the flow of housing services and the investment aspects of homeownership (see U.S. Congressional Budget Office, 1988, for a complete discussion). In 1983, the CPI-X1 was adopted. It incorporates only the consumption aspects of homeownership, is less-affected by mortgage interest rates, and weights housing less than did the CPI. Between 1973 and 1987, the CPI grew by 156 percent, while the CPI-X1 grew by 139 percent, or by about 11 percent less. While the official poverty line for 1987 for a family of four was $11,611, it was $10,563

using the CPI-X1. The CPI-X1 does not affect the level or trend in inequality.

[6]Our sample shows higher real incomes and a greater increase than does the published series. Real mean family income for all families, as reported by the Census (1988), increased by 5 percent between 1973 and 1987. Mean adjusted family income for our sample, which includes male unrelated individuals, but excludes families headed by women and the elderly, increased by 19 percent. Our sample and measurement choices reduce inequality in any year and yield a smaller increase in inequality than the published Census data.

[7]The published Census data are affected by the change in the "topcoding" of earnings from $99,999 to $299,999. However, the public use computer tapes we use were topcoded at $99,999. According to Lynn Karoly (1988), the percentage of persons affected by topcoding was less than 1 percent in the period since 1973. She concludes that trends in earnings inequality were not affected when she implemented two alternative statistical measures to correct for potential bias introduced by topcoding.

[8]Note that change in the coefficient of variation of total adjusted family income also reflects changes in the three covariences, which are not shown in Table 4.

[9]Income underreporting is a problem in the CPS, particularly for those receiving property income and government transfers. For example, in 1983, reported CPS money income was about 90 percent of the Census Bureau's independent estimate. Wages and salaries were well-reported, with the CPS incorporating 99 percent of the independent estimate. However, only about 45 percent of property income and 85 percent of

government transfers were reported (U.S. Bureau of the Census, 1988, Appendix C, p. 51).

We performed a rough simulation and found that our results were not much affected by underreporting. When we doubled all reported property incomes in each year, the percentage of units "rich" increased from 3.6 to 7.2 percent, instead of from 3.1 to 6.9 percent. The increased earnings of wives and others and increased inequality remained the dominant explanatory factors.

[10] These results call into question Lawrence Lindsey's (1987) conclusion that the increased income of top taxpayers between 1980 and 1984 was due to behavioral responses to reductions in marginal tax rates. His baseline income distribution used 1979 data and assumed equiproportionate increases for all taxpayers for each given type of income--"...although the baseline controls for the changes in the functional distribution of income in society, it does not control for possible changes in the distribution of individual components of income (p.204)." Thus, what appears in our work, based on actual changes in each income source, as an increase in wives' earnings, will be attributed in his model mostly to husbands. While the increased earnings of wives may, in part, have resulted from the Reagan tax cuts, we do not think that this is the kind of supply-side response that Lindsey describes.

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Representative **Hamilton**. Mr. Smeeding, please proceed.

STATEMENT OF TIMOTHY M. SMEEDING, DIRECTOR, CENTER FOR THE STUDY OF FAMILIES, CHILDREN AND THE ELDERLY, VANDERBILT INSTITUTE FOR PUBLIC POLICY STUDIES, AND PROFESSOR OF PUBLIC POLICY AND ECONOMICS, VANDERBILT UNIVERSITY

Mr. **Smeeding**. Thank you, Mr. Chairman. I reiterate the comments of my colleagues, thank you very much for having me. I will deal with two primary questions that you asked me at the beginning of the session. I have a 20-page prepared statement that gives the bulk of evidence; I want to summarize in oral form the conclusions that these pages lead me to.

To open up, I think the fact that income inequality has increased in this country over the past decade is disputed by virtually no one, particularly not by the people at this table. However, the way that the United States compares to other similar nations in terms of inequality and poverty is not so well known.

Similarly, the net effect on inequality of moving to an expanded, more comprehensive definition of income, is not well known or understood. And these are the two topics you have asked me to deal with.

I have three points to make: One deals with the U.S. income distribution as compared to nine other countries at the turn of the decade, another refers to trends in poverty among children in the United States versus Canada, our closest neighbor, and the last one deals with the Census Bureau's new report, "Measuring the Effect of Benefits and Taxes on Income and Poverty" which includes a lot more things than any previous census report ever put in the income definition, but it doesn't include enough. So let me quickly run through these three.

The first thing you have to know is that in 1980, at the turn of the decade, the U.S. income distribution was the most unequal of 10 nations that I studied. Not just myself, mind you other researchers in this country and people of high academic stature such as Anthony Atkinson in the United Kingdom have come to the conclusion that without a doubt, no matter which measure you use, the United States is the most unequal of the 10 studied. Now we're not just talking about Sweden and we're not just talking about Western Europe, we're talking about the United States having more inequality in 1980 than Australia or Canada.

Another related finding—by Barbara Torrey and I—was published in a Science article in November of this year, is that the United States has by far the highest poverty rate of children among all the countries studied. Only Australia is close. This is using the U.S. definition of poverty, the way our Census Bureau does, and transforming that poverty definition to other nations' currencies and comparing their children to ours. That's the first point.

My second point has to do with comparisons between the United States and Canada. Since the turn of the decade the poverty rate among children in the United States has gone up. We now have about one-fifth, 20 percent, of U.S. children poor. The comparable

Canadian rate in 1986: 8.6 percent. Less than half as much. This isn't Sweden. We're not talking about Germany or even Britain or Australia; we're talking about Canada. They're right up there [indicating]. Their beer is better and they spend more on heating than we do, but otherwise we are quite comparable. They have less than half of the poverty rate that we do in 1986. Why? Well I'll answer that, if you want to investigate this point further. It's quite embarrassing, I think.

The third point I want to make has to do with the Census Bureau's new report. The first thing I want to do is I want to congratulate the Census Bureau on this report. They have included capital gains in income, they have subtracted direct taxes in the form of State and local income taxes, Federal income taxes and payroll taxes. They have included imputed rent—imputed return on one asset, housing, and they've even made a step towards including employment related fringe benefits in their numbers. But they didn't go quite far enough.

The conclusions they reach are that once you make these adjustments the distribution of income becomes more equal. And there's no doubt, once you've made just these adjustments, this is true. The remaining problems come from several areas, but there are two I want to concentrate on, the ones which I could get a handle on since you called me.

The first one has to do with the inclusion of employer benefits, discretionary employment related benefits. The Bureau only includes health benefits. They don't include things like private disability, sickness and accident, life insurance, education, autos, discounts on products, profit sharing and thrift, or even some things that I have not been able to include in my prepared statement either, like employer travel and entertainment perks.

In 1982 I came before this committee and I mentioned that it isn't fair to include school lunches in the income distribution when you don't include three-martini lunches. Well now it's not the three-martini lunch, it's a power breakfast versus the school breakfast; but these power breakfasts aren't included in any of my numbers or their numbers. So what happens if you make an adjustment for these benefits? I made all of the adjustments I could for discretionary employment related benefits, not including pension contributions, and altogether they're 92 percent as large as the health insurance benefits which were included by the Bureau.

The second thing I do is to say that the Bureau has included the implicit return on one asset that people hold, the house. And, of course, that's the most widely distributed asset across the whole population. But what if we gave people the same rate of return on their net worth in other assets? So I called my friends at the Federal Reserve Board who happen to have assets distributed by money income quintile for the same year. And then I called my friends at the Census Bureau who happen to have the portion of capital income that's reported in the CPS as interest, rents, and dividends and which needs to be netted out.

When we got done making these two adjustments, guess what? The level of overall inequality is at least as unequal as it was when we started. In other words the level of income inequality, once you've included these other two items, going beyond the Census

Bureau report, is back to a point where it's at least as unequal as the money income definition that none of us like, but which the Census Bureau has been using for years.

Now again, I want to be really careful here. I want to praise the Bureau: I don't want them to stop doing such reports as these, I just want them to go further. How can they go further? They can include all taxes, for instance. It's very interesting they subtract off property taxes that are paid by owners but do nothing for property taxes paid by renters or sales taxes and excise taxes. And they don't include the nonhealth related employer perks, as I mentioned. But still, I think they should continue to work in this area.

So in summary these three sets of facts that I have indicate that the United States has a greater amount of income inequality and child poverty than do comparable nations, including Canada, our closest neighbor. Moreover, this inequality is real. Adding noncash and unrealized components of income to the usual definition does not appear to decrease overall inequality; in fact, it may increase it.

So we're left with this troubling puzzle that Peter Gottschalk pointed out, I think: we have a kindler, gentler America but it's a much more unequal America in 1989 and we need to do something about it, I think. Thank you.

[The prepared statement of Mr. Smeeding follows:]

PREPARED STATEMENT OF TIMOTHY M. SMEEDING*

INCOME INEQUALITY: CROSS-NATIONAL AND COMPREHENSIVE PERSPECTIVES

Mr. Chairman and members of the Joint Economic Committee of the U.S. Congress, thank you for asking me to appear before this committee today. Your letter of May 1, 1989 asked me to concentrate my remarks on the facts behind the overall income distribution figures. In particular I want to address two questions:

(a) the recent experiences of two subgroups, children and elderly, with respect to poverty status and overall income distribution; and

(b) the effect of a broader, more comprehensive definition of income on the dispersion of people's well-being.

I will primarily rely on international data from the Luxembourg Income Study to address the first question; and the U.S. Bureau of the Census' new report, "Measuring the Effect of Benefits and Taxes on Income and Poverty: 1986," to address the second.

I. Cross-National Comparisons

For the first time, the Luxembourg Income Study (LIS) database allows for direct microdata based comparisons of income distributions across countries. The LIS datafile contains the March 1980 U.S. Current Population Survey, and nine similar surveys. These datasets have been adjusted to yield common definitions of income and household characteristics (see appendix). Data from LIS is used here to compare three summary measures of income inequality (Table 1) and the relative position of children (persons under 18) and elderly (persons age 65 and over) in the U.S. as compared to these other countries (Table 2).

The comparisons in Table 1 are based on disposable family income (DPI), while those in Table 2 use adjusted income (ADPI). The ADPI measure used in this paper adjusts DPI for differences in family size using an adult equivalence scale, which is almost identical to that used by the Congressional Budget Office (CBO, 1988) in their recent and widely quoted report, "Trends in Family Income: 1970-1987." DPI includes all forms of cash income including earnings, realized capital income, and government transfers, net of income and payroll taxes. This is the most commonly accepted measure of net ability to consume goods and services, but it does not fully account for well-being because it does not take into account exogenous differences in needs due to family size. Because elderly families tend to be smaller than families with children, living in larger units, such an adjustment is necessary to compare the relative economic position of dependent groups. ADPI makes allowance for the needs of the differential needs of different size families by using the median value of the equivalence scale implicit in the poverty lines of seven of the ten countries studied to adjust DPI for family size (Buhmann, Rainwater, Schmaus, Smeeding, 1988). This adjustment is made by dividing the income of a given size unit by the relative number of equivalent adults normalized to a family of size three. A childless couple's income is divided by .80, a couple with one child (or a single parent with two children) has its disposable income divided by 1.0, and a family of four by 1.17, etc.

While we begin with a set of traditional summary measures of economic inequality in Table 1, the most sensitive policy concern when dealing with the well-being of dependent groups is their degree of economic deprivation or poverty status. For the detailed analysis which follows in Table 2, we will define poverty lines as equal to one half of the median adjusted income (or well-being) measure. This is a commonly accepted definition of poverty (or low income) and imposes no one country's selected level of poverty on any other one.

In addition to poverty, we are interested in the relative economic status of families with children, elderly families, and other types of units across the ten LIS countries. Ranking all types of families by the ADPI to find the median family we have divided the population according to the cumulative percent of persons living in families below or above given fractions of median income in each country. In addition to poverty, we have selected four income groups, all defined relative to overall median income, and have constructed a table which presents estimates for three categories of persons, all persons, elderly, and children. In summary, the four income groupings are:

1. "poor" (adjusted incomes below .5 times median income),
2. "near poverty" (adjusted incomes between .5 and .625 times median income),
3. "middle class" (adjusted incomes between .626 and 1.5 times median income),
4. "well-to-do" (adjusted incomes above 1.5 times median income).

These categories were chosen because of widespread policy concern over the economic status of generationally different dependent groups in society, i.e. children (and families with children, especially single mothers) and the elderly (particularly single elderly persons living alone) (Palmer, Smeeding, Torrey, 1988).

We chose "near poverty" to highlight the economically insecure groups of elderly and/or children who while not poor are very close to poverty status. Research on the economically insecure elderly in the United States and elsewhere has shown this group to be both quantitatively large and heavily dependent on social retirement income. To the extent that the budgetary pressures of an aging society might lead a government to cut back on the real level of social retirement benefits, e.g. by not indexing them to prices or by outright benefit reductions, large numbers of near poor units might be pushed into poverty. Similarly, near poor families with children may be pushed into poverty during economic downturns due to the skewed distribution of the incidence and duration of unemployment (Gramlich and Laren, 1984) coupled with an inadequate social protection system.

The categories of middle class and well-to-do are designed to show where the population who are not poor, or at risk of becoming poor, are situated in the income spectrum. These groups are also important to the budgetary realities of an aging society because growing demands on public entitlements may require either increased taxes or benefit reductions. To the extent that any particular family type, including children and the elderly, are relatively well-to-do, benefit reductions and/or increased taxation among this group to maintain support among those least well off might be justified, despite popular misperceptions that one group or another is "disadvantaged" relative to the rest of society.

We begin by measuring the degree of overall inequality in DPI using three well known and widely used indices:

1. the Atkinson inequality index ($e = .5$)
2. the Gini coefficient
3. the Theil inequality index

These measures all belong to the group of inequality measures, and are therefore not sensitive to relative changes in the income scale. But, as indicated by Atkinson (1975) and Sen (1973), they all imply some a priori value judgments about the distribution itself. For instance, the Atkinson index is sensitive to inequality changes in the lowest part of the income distribution; the Gini coefficient is sensitive to inequality changes around the median; and the Theil index is sensitive to changes at the top part of the income distribution. According to these sensitivities (and hence the implied value judgments), the chosen inequality measures do not indicate the same inequality difference among distributions. But comparing these across countries we can determine the inequality rank order of the countries, using different inequality measures along with the DPI concept. Table 1 uses these three measures to generate the rank ordering (RO) of each country by each measure, including medians of the RO itself.

According to the Atkinson index (e = 0.5), which is very sensitive at the lowest end of the distribution, DPI has the highest inequality in the U.S., followed by Australia, Canada, and the Netherlands. The most equally distributed DPI are found in Sweden and in Norway. Comparing this ranking with other inequality measures, the rank order of countries remains remarkably stable. The countries are presented according to their median rank order, with geographically larger, more politically, and economically diverse and "newer" countries (U.S., Australia, Canada) showing the highest degree of inequality and with the Scandinavian countries showing the lowest degree of inequality. Interestingly, these country groupings correlate with overall social expenditures as a percent of GDP in 1980, with Australia, Canada, and the U.S. spending 20 percent on average, European countries spending 26 percent, and Norway and Sweden 30 percent (OECD, 1985).

But one dimensional measures of inequality can often obscure important differences among particular groups in society. In order to go beyond these

TABLE 1

Inequality Measures (x1000) for Disposable Income (DPI) Weighted by Persons and Rank Order (RO) for Each Measure

Country	Atkinson 0.5 (RO)	Gini (RO)	Theil (RO)	Median (RO)
U.S.A.	99(1)	330(1)	182(1)	(1)
Australia	87(2)	314(2)	165(2)	(2)
Canada	83(3)	306(3)	157(4)	(3)
Netherlands	82(4)	303(4)	159(3)	(4)
Switzerland	79(5)	292(6)	154(5)	(5)
U.K.	78(6)	303(4)	153(6)	(6)
Israel	71(7)	292(6)	142(7)	(7)
Germany	66(8)	280(8)	134(8)	(8)
Norway	60(9)	255(10)	114(9)	(9)
Sweden	60(9)	264(9)	114(9)	(10)

Source: LIS database

Method: Each inequality measure was applied to each country's DPI to arrive at an inequality score. The scores were multiplied by 1,000 and ranked from highest to (1) to lowest (10).

simple indices and to focus on our groups of interest and on the U.S. in a comparative context, we turn to an examination of the relative economic position of children and elderly relative to all persons using ADPI and our four groupings in Table 2.

In Table 2, countries are presented in the same order given in Table 1. Each row adds to 100 percent, and the simple mean (column average) of each set of estimates is also shown. First of all, consider the simple means for each grouping. Both children and elderly are more liable to be among the poor and are less likely to be among the well-to-do than the average person in society (top panel). The elderly are more likely to be found near the top and bottom of the distribution, especially among the near poor, than are children. In fact, there are more near poor elderly than poor elderly. But these percentages vary considerably across countries within each grouping.

How does the United States compare to other countries, particularly for children and the elderly? While the newer countries (U.S., Australia, Canada) tend to have more poverty and less people who are middle class than do the others, while the Scandinavian countries tend to have the least poverty and the largest middle class, the rankings remaining are not so clearcut as in Table 1. For instance, while the U.S. has far and away the highest level of poverty among the countries studied, it is only fourth highest in the fraction of persons living in families which are well-to-do, ranking behind Israel, Netherlands, and Australia.

What about the major dependent groups: children and the elderly? The bottom two panels of Table 2 indicate their rankings. Among persons living

TABLE 2
Distribution of Persons by Adjusted Income (ADPI)

All Persons

Country	Poor	Near Poor	Middle Class	Well-to-do
U.S.A.	16.6	7.6	53.7	22.1
Australia	11.6	9.8	56.0	22.6
Canada	12.3	8.7	58.5	20.6
Netherlands	7.5	6.7	62.5	23.3
Switzerland	8.2	7.7	67.2	16.9
U.K.	11.7	9.7	58.5	20.2
Israel	11.0	10.6	54.2	24.2
Germany	4.9	7.7	70.1	17.3
Norway	4.8	8.4	73.4	13.4
Sweden	5.0	5.5	79.0	10.5
Simple Mean	9.4	8.2	63.3	19.1

Children

U.S.A.	21.4	9.0	57.1	12.6
Australia	15.4	8.6	64.4	11.6
Canada	15.2	9.1	64.4	11.3
Netherlands	8.0	10.5	68.8	12.8
Switzerland	7.3	8.4	74.8	9.5
U.K.	9.3	9.7	69.9	11.1
Israel	10.8	12.8	58.1	18.2
Germany	2.8	8.5	78.2	10.6
Norway	5.0	5.8	79.7	9.6
Sweden	5.2	4.6	83.3	7.0
Simple Mean	10.0	8.7	69.9	11.4

Elderly

U.S.A.	24.6	11.5	47.9	15.9
Australia	14.9	30.3	43.1	11.8
Canada	18.5	18.6	48.6	14.2
Netherlands	3.4	3.2	71.5	21.9
Switzerland	11.4	16.1	56.1	16.5
U.K.	34.7	21.7	36.8	6.9
Israel	25.0	14.3	45.0	15.7
Germany	11.8	13.6	59.6	15.0
Norway	5.5	24.7	60.1	9.7
Sweden	1.1	10.4	85.2	3.3
Simple Mean	15.1	16.4	55.4	13.1

Source: LIS database
Note: Each row adds to 100 percent. Poor are persons of each type living in families with incomes less than half (.5) of median ADPI. Near poor are those between .5 and .625 median ADPI; middle-class from .625 to 1.5 the median ADPI, and

in families with children, the United States has by far the highest fraction living in poverty, over 21 percent, with the other two large countries (Australia, Canada) near 15 percent, and with all European and Scandinavian countries with less than half as many children in poverty. In other recent papers (e.g., Smeeding and Torrey, 1988) we have shown that the poverty of our children can be attributed in large measure to our lack of income support (social expenditure) for otherwise poor families with children. Our elderly tend to look more like other nations elderly and are relatively less disadvantaged than our children (Smeeding, Torrey, Rein, 1988). For instance, if we sum the poor and near-poor elderly in the U.S., we end up with 36.1 percent, not far above the overall average of 30.2 percent. Australia (35.2), Canada (37.1), Israel (39.3), and the U.K. (56.4) all have nearly the same or higher fractions of the elderly in these two groupings as does the U.S. Because the U.S. tends to have higher than average poverty among dependents, we must be below average in one or more of the other categories. Indeed, the U.S. has relatively low fractions of middle class children and elderly, but above average fractions of well-to-do children and elderly.

In summary, it appears that the U.S. is the most heterogeneous country of those studied with respect to its distribution of income. While diversity has its virtues, and while our diversity is shared to some extent by other newer and larger countries with less developed welfare states (Australia, Canada), diversity also has its shortcomings, e.g., the large proportion of poor U.S. children found in Table 2. Since 1979, we know that overall family income inequality in the U.S. increased substantially. The Gini coefficient for Census family income moved from .365 in 1979 to an all time post war high of .392 in 1987, an increase of considerable magnitude (U.S. Department of Commerce, 1989, Table 12). But we have no comparable inequality data for other countries at this time.

The relatively high fraction of U.S. children living in poverty is troubling. While we spend nearly the same fraction of GNP on children's health and education as do these other countries, we fall far below the others in terms of direct income support for families with children (Smeeding and Torrey, 1988). While a higher fraction of U.S. elderly were poor in 1979 than were children according to Table 2, we know that poverty among the elderly has fallen while poverty among children has increased, both by substantial amounts since 1980. By 1987, the U.S. child poverty rate was 20 percent compared to 12 percent among the elderly (U.S. Department of Commerce, 1988, Table 16). Most of this decrease in elder poverty can be attributed to growth in social security benefits, but U.S. children are not covered by social security unless one of their parents suffers a premature death. All of the other countries studied have a universal national child allowance (or refundable child tax credit) program. Given the above average fraction of all types of U.S. citizens who are well-to-do, as well as those who are poor, it appears that our tax and transfer system may be less equalizing than are those of other modern nations.

What has happened since 1980 across these several nations? We are about to begin to marshall a new wave of LIS data to answer this question. But already we have one hint at the answer. Dooley (1989) recently produced a time series of comparable (see source and method statement and notes to Table 3) data on U.S. vs. Canadian poverty. The poverty standards and income measures are those used by the Census Bureau to annually measure poverty in the U.S. They were transformed to Canadian dollars for the appropriate year using OECD purchasing power parities.

The results in Table 3 are very disturbing. The 1980 comparative picture of U.S. vs. Canadian child poverty in Table 2 has become even more attenuated. While U.S. child poverty rose, Canadian child poverty fell during the 1980's. Why do Canadian children in 1986 have poverty rates less than half as high as do U.S. children? The answer is not our racial heterogeneity--white U.S. children had poverty rates in 1986 which were nearly twice Canadian children's rates. While we have a much larger proportion of children in single parent families than does Canada (26 vs. 14 percent in 1986), the Canadians have managed to cut their poverty rate among children living with lone female parents while ours has increased. These divergent trends demand an explanation. It's not Sweden or Germany or even the U.K. which we are comparing ourselves to, it's Canada! Even those Americans who "don't believe in international comparisons" must grudgingly admit to the geographic, political and economic similarity with our northern neighbors, and therefore be embarrassed by this comparison.

II. Broader Definitions of Income

A recent U.S. House of Representatives, Ways and Means Committee (1989, Table 26, p. 986) report indicates that average unadjusted household income in constant (1987) dollars rose from $27,917 in 1979 to $29,487 in 1987. Using an ADPI measure similar to that used in Section I above, real incomes have increased 9.3 percent since 1979. However, the mean unadjusted real incomes of the bottom 20 percent of families decreased from $5,439 in 1979 to $5,107 in 1987, a drop of 6.1 percent, while the mean income of the top

TABLE 3
Poverty Rates Among Groups of Children by Family Type in the USA and Canada: 1973, 1979, 1986

	Canada	USA[3]			
	All Races	All Races	White[1]	Black[1]	Hispanic[1]
A. Related Children in All Types of Families					
1973	12.2	14.2	9.7	40.6	27.8
1979	9.7	16.0	11.4	40.8	27.7
1986	8.6	19.8	15.3	42.7	37.1
Percent Change[2]	-29.5	39.4	57.6	5.2	33.5
B. Related Children in Lone Female Parent Families[3]					
1973	58.1	52.1	42.1	67.2	68.7
1979	45.3	48.6	38.6	63.1	62.2
1986	36.8	54.4	46.3	67.1	66.7
Percent Change[2]	-36.7	4.4	10.0	- .1	-2.9
C. Related Children in All Other Families[4]					
1973	8.6	7.6	6.0	21.7	18.8
1979	6.2	8.5	7.3	18.7	19.2
1986	5.2	10.8	9.8	17.0	25.8
Percent Change 1973-1986[2]	-39.5	42.1	63.3	-21.6	37.2

Source and Method: Dooley, (1989, Tables 18 and 19), U.S. Department of Commerce (1988a, Table 16). All U.S. figures are taken from published U.S. Bureau of the Census P-60 reports. Canadian figures were derived by converting the U.S. poverty line into Canadian dollars using the OECD purchasing power parities in the correct year and comparing it to Canadian household incomes using the Canadian *Survey of Current Finances* database. Income definitions, demographic groupings, and data quality are implicitly assumed to be relatively equal. Differences in definitions are discussed in Dooley on pp. 20-24.

Notes:

[1] Whites and blacks include some persons who are of hispanic ethnicity; Hispanics may be of any race.

[2] Percent change is (1973-1986)/1986 * 100.

[3] Lone female parent are "mother only families" in Canada and "female householder, no husband present in USA." Dooley (p. 23) indicates that these definitions are not fully consistent across countries.

[4] All other families are mostly children living with both parents in the USA and children in married couple families in Canada.

20 percent of families rose from $61,917 to $68,775, an increase of 11.1 percent. Adjusted incomes fell by 9.8 percent at the bottom and rose by 15.6 percent at the top over this same period. The mean adjusted incomes at the top of the distribution were 8.5 times as high as the poverty line in 1987; those at the bottom were only on average .8 times the poverty line. The ratio of mean incomes, top to bottom was 8.5 to .8, or 10.6. These figures clearly and unequivocally imply increased income inequality in the United States over the 1979-1987 period.

While these estimates are based on the same consistent definition of money income used by the Census Bureau since 1947, critics claim that if we were to include a broader definition of money and nonmoney income, and to subtract taxes, we would find that the size distribution of comprehensive income was much more equal and that poverty would be reduced. In the past, the Census Bureau has been criticized for focusing their efforts at broadening the income definition only for those types of noncash income which most favor the poor, while ignoring those most favoring the rich (e.g., see U.S. Department of Commerce, 1988a; Smeeding, 1982). In response, the Census Bureau recently published a report entitled "Measuring the Effect of Benefits and Taxes on Income and Poverty: 1986." This report indicates the distribution of income among households and the prevalence of poverty under various definitions of income. The report's most comprehensive definition of "expanded" income makes the following adjustments to cash Census income:

1. includes public in kind transfers for medical care, housing, and food as in their earlier reports (Smeeding, 1982) but values medical care only to the extent that it is "fungible", i.e. that it frees up other

resources which could be spent on medical care. Housing and food transfers are valued at their cost to the government or market value.

2. includes realized capital gains on sales of assets.
3. includes employer subsidies for health insurance plans at their cost to the employer.
4. includes the imputed net return (implicit rent) on equity in an owned home, net of property taxes paid on that home.
5. subtracts federal and state income taxes and payroll taxes.

The result of these adjustments was to produce a statistically insignificant change in median household income, but a distribution of income that was more equal under the expanded definition than under the usual definition. This equalizing influence occurs mainly via the transfer system rather than the tax system. The report also indicated that elderly families gained relative to families with children. The ratio of expanded to usual Census income for the elderly as a group was 1.38 while it was .96 for families with children as a group. The report shows poverty rates which follow these same patterns. Among the old, the expanded income poverty rate was 5.7 percent as compared to 16.0 percent for all children. The comparable Census income based poverty rates are 12.4 percent for the elderly and 20.5 percent for children.

The Census Bureau is to be congratulated for using a broader and, in my opinion, better measure of income to investigate both inequality and poverty. The decision to value food and housing transfers at their market value was also commendable. Several recent researchers have found that food stamps are as good as cash. And given the tight rental markets faced by low income families, the recipient value of rent subsidized apartments, which was 80 percent of the market value a decade ago, has likely risen much closer to the 100 percent level. While more work needs to be completed in the area of valuing medical transfers, the fungible value approach is certainly better than market value approach for low income persons. All things considered, by measuring income on an after tax basis, adding capital gains, implicit rent and employment related health benefits, the Bureau has moved much closer to the economist's definition of full income. However, the picture of the income distribution which emerges is still somewhat biased and flawed, as my comments will suggest. Hopefully the Bureau will move in the future to continue to modify their income measures and continue to address the measurement issues which I mention below.

My critique centers primarily on the two items--unrealized returns to assets (e.g., implicit rent on owner occupied homes) and discretionary employer provided fringe benefits--for which I am able to make some rough adjustments to the Census income definition. Other items which I am unable to measure at this time are also mentioned.

First of all, the Census Bureau (1988a, p. 5) reports that data limitations precluded them from adding various types of non-health insurance fringe benefits and measuring their impact on income distribution. Based on earlier comments by Ellwood and Summers (1986) they have explicitly decided not to include employer contributions to pension plans in the current income of an employee. In addition to the cost of health insurance subsidies to an employer, which is included in the Census expanded income definition, the Bureau lists such items as life insurance, meals, and child care subsidies among those which they would have liked to include were the data to do so available. To these I would add private long and short term disability insurance, private sickness and accident insurance, employee discounts for meals and education, and profit sharing and thrift plan subsidies. While microdata estimates of each of these components of income are not available for 1986, I was able to estimate their overall value relative to health insurance subsidies based on a U.S. Chamber of Commerce Report (1984) and on my earlier research using BLS establishment data on the employer cost of compensation (Smeeding, 1983). Altogether, these omitted discretionary benefits were 4.7 percent of wages and salaries in 1983; health insurance subsidies alone were 5.1 percent of wages and salaries in that year. Thus the omitted benefits are 92 percent (4.7/5.1 x 100) as large as the included benefits. While these estimates still exclude child care and employer subsidized travel and entertainment benefits, they do provide a broader definition of discretionary employment related benefits than the Bureau's estimates. In two recent papers (Smeeding, 1983, 1984) I was able to estimate the distributive effect of most of these subsidies. In general, these other benefits were distributed proportionately to health benefits when families receiving them were ranked by income level. And so, in Table 4, I have distributed these additional amounts in proportion to the mean amount of health insurance subsidies received by families in each quintile (Table 4, column 4 and note 3).

The decision to include implicit rent in income is one very much in accordance with an economists notion of full income. The Census Bureau measures this imputed income by multiplying net equity (net worth) in ones owned and occupied home by a 7.38 percent rate of return, the average 1986 rate of return on the Standard and Poor's series of high grade municipal bonds, and then subtracts off property taxes paid by homeowners. No account is taken of property taxes paid by renters, nor is any other type of net worth (stocks, bonds, mutual funds, business assets, other housing equity, etc.) assigned any implicit rate of return. Because housing equity is by far the most equally distributed and widely owned asset, the inclusion of only this part of net worth creates a more equal distribution than if we were to measure the implicit return on all assets.

In order to estimate this return, several steps were necessary:

1. Federal Reserve Board estimates of mean net worth excluding equity in owner occupied homes were obtained from households ranked by quintiles of Census income in 1986. This provided mean other net worth for each quintile. It varied from $14,700 in the lowest quintile to $386,900 in the highest quintile.
2. The 7.38 percent rate of return was applied to these amounts of net worth to arrive at gross property income.
3. Mean interest, rents, and dividends--the portion of the return on this net worth which is already reported in Census income--was obtained for each household income quintile in 1986 from the Census Bureau, and was subtracted from the overall 7.38 percent figure calculated above.

These amounts are reported as implicit return on non-housing net worth (Table 5, column 5, note 4). In the lowest quintile the mean net implicit return on non-housing net worth was $344 as compared to mean implicit rent of $799 (not shown). These figures indicate that net worth in an owned home is the major asset held by low income families. In contrast, the net implicit return on non-housing net worth in the highest income quintile was $23,829 as compared to a mean implicit rent of $4,568 (not shown). Equity in an owned home is only about 15 percent of total net worth among the highest income group, while it is a full 70 percent of net worth among those in the lowest quintile.

TABLE 4
Usual Census Income, Expanded Income, and Additional Income Items: Mean Values by Quintile and Distributive Effect

			Additional Income		
Household Income Quintile (1)	Usual Census Income[1] (2)	Expanded Income[2] (3)	Other Employment Related Benefits[3] (4)	Implicit Return on Non-housing Net Worth[4] (5)	More Complete Income (6) =(3+4+5)
Lowest	$ 5,904	7,604	16	344	7,964
Second	14,890	16,369	369	794	17,532
Middle	25,160	24,955	653	1,117	26,725
Fourth	36,981	35,739	1,430	2,318	39,487
Highest	70,860	70,675	2,175	23,829	96,679
Overall Mean Income	30,759	31,068	928	7,646	39,642
Gini Index of Concentration	.420	.404	---	---	---
Income Share:					
-Lowest Quintile	3.8	4.9	---	---	3.9[6]
-Highest Quintile	46.1	45.5	---	---	47.1[6]
Ratio of Highest to Lowest Quintile	12.0	9.3	---	---	12.1
Gap from Highest to Lowest:					
a) Amount	64,956	63,071	---	---	88,985
b) Ratio to Mean Income	2.11	2.03	---	---	2.24

Source: U.S. Department of Commerce (1988a, Table 2); U.S. Chamber of Commerce (1984); Unpublished tabulations courtesy of Federal Reserve Board, U.S. Bureau of Census.

Notes:

[1] The usual U.S. Census Bureau of measure of income used to generate annual income and poverty statistics includes money income from all sources except capital gains. It is labeled definition 1 in the U.S. Bureau of Census (1988a) report.

[2] Expanded income adds realized capital gains, employer provided fringe benefits in the form of health insurance, noncash transfers in the form of health insurance (medicare,

Medicaid, food (food stamps, school lunch) and public housing to usual Census income. It also subtracts federal and state income taxes and payroll taxes. Medicare and Medicaid are measured at their fungible value, i.e., they are counted as income only to the extent that they free up resources over and above basic food and housing requirements which could have been spent on health care. See U.S. Bureau of the Census (1988a) pages 223 to 225 for full explanation. This measure is labeled definition 12 in the U.S. Census Bureau (1988a) report.

[3] Calculated by adding 92 percent of the mean employer health insurance subsidy in each quintile to quintile mean income. The 92 percent figure was the 1983 ratio of non-pension, non-health insurance discretionary employer (and union) supplements as a percent of wages and salaries (4.7 percent), to health insurance subsidies (5.1 percent of wages and salaries). These non pension, non-health insurance supplements include life insurance, short and long term disability, accident insurance, dental insurance, employee subsidies for education, discounts on goods and services, employee meals furnished in lieu of pay, and profit sharing and thrift benefits. Travel and entertainment, and other perks (e.g., free use of company cars, memberships, tickets, etc.) and child care subsidies are not included.

[4] Calculated by multiplying each money income quintile's Federal Reserve Board mean net worth excluding home equity by 7.38 percent, and subtracting out interest, rent, and dividends which are already included in the Census Bureau's money income figures.

[5] These estimates are based on the mean figures above with an adjustment for inter-quintile movement due to reranking of households, and are only rough estimates of the shares which would be found using a microdata imputation methodology.

Table 4 indicates the impact which these amounts have on overall inequality. The Census Bureau's expanded income definition (column 3) is clearly more equal than the usual Census estimates (column 1). The share of the bottom quintile is larger, the Gini is lower, and the inter-quintile gap between the higher and lower quintile means and their ratio are both less in column 3 than in column 1. However, adding the additional employment related benefits and implicit return on non-housing net worth reverses this pattern completely. The final column, entitled more complete income, shows a slight gain in the income share of the lowest quintile, as compared to usual Census income, but a much larger gain in the share of the top quintile. While we are unable to compute a Gini index of concentration from these figures, the ratio of top to bottom and top to overall mean incomes is higher, and the income distance between quintiles much larger, than that which is observed in column 1. At the very worst, my rough accounting for these omitted items leaves us with an income distribution picture which is at least as unequal as that found using usual Census income, and much more unequal than the expanded income definition in column 3.

Were we to make additional adjustments for income reporting errors, for illegal income, for state and local taxes (e.g., property taxes on renters, sales taxes) and for employer perks, it is unclear how the distribution of full income would be affected. Similarly, adjusting for differences in needs due to family size would reduce inequality in columns 1, 2, and 6, but the comparative extent to which this reduction would occur is unknown. While we are unable to make these adjustments at this time, the Census Bureau should make every effort to move toward such a more complete definition in their future work.

III. Conclusions

The fact that income inequality has increased in this country over the past decade is disputed by virtually no one. However, the way that the U.S. compares to other nations in terms of inequality and poverty is not so well known. Similarly the net effect on equality of moving to an expanded, more comprehensive definition of income is not well known or understood. The purpose of this written statement is to investigate these issues and to carefully document the basis by which we reach the following conclusions:

1. The U.S. income distribution, on an after (direct) tax money income (DPI) basis, is the most unequal of the ten modern nations studied. Moreover, our children had a higher rate of poverty than did children in any other nation at the beginning of the decade, including Australia and Canada as well as Scandinavian and European nations.
2. Since the turn of the decade, the poverty rate among U.S. children has increased while the comparable rate for Canada, using the same income and poverty definitions as those used in the U.S., fell substantially. By 1986, 19.8 percent of U.S. children were poor as compared to 8.6 percent of Canadian children.
3. The U.S. Bureau of the Census' recent efforts to provide a more complete definition of income and its size distribution are to be commended. But these efforts are in need of further improvement and expansion. When rough adjustments are made to add additional appropriate income items to this definition, the level of overall inequality is no less than that found in the usual Census income statistics, and perhaps even more. Additional careful attention to expanding the income definition at both ends of the spectrum is needed if we are to improve our estimates of

income inequality and well-being more generally.

These three sets of related facts indicate that the U.S. has a greater amount of income inequality and child poverty than do comparable modern nations, including Canada, our closest neighbor. Moreover, this inequality is real--adding noncash and unrealized components of income to the usual definition does not appear to decrease overall inequality. In fact, it may increase it.

APPENDIX

Luxembourg Income Study (LIS) Database

The rapidly evolving technology of computerized databanks provides a challenging opportunity to assemble multi-national databases that provide a common foundation upon which teams of social scientists can build truly long-term, comparative international research programs. The LIS database is one such assemblage. It has gathered in one central location a set of country income microdata sets prepared to a common plan, based on common definitions of income sources and family and household characteristics. The databank can be accessed and analytic results transmitted via telecommunications linkage throughout the world, thus making LIS readily accessible to researchers at very low direct cost. The LIS databank currently covers ten countries--Australia (1982), Canada (1981), Israel (1979), Netherlands (1983), Norway (1979), and West Germany (1981), with year given in parentheses (see Table A-1). The basic description of the dataset can be found in Coder, Rainwater, Smeeding (1988).

Through funding by an international consortium of scientific research foundations from its member countries, LIS has now moved beyond the initial experimental stage to provide a databank which can be perpetually updated and expanded. Additional country datasets from Finland, Poland, France, Luxembourg, Ireland, Denmark, and Italy are expected to be added to LIS over the next year, while negotiations to include Japan, Hungary, and other countries remain in the planning stages. The entire LIS dataset will be updated during 1989 at which time income year 1985 and 1986 datasets will be added for most current LIS countries and those listed above.

TABLE A-1

An Overview of LIS Datasets

Country	Dataset Name, Income Year (and Size[1])	LIS Country Coordinators	Population Coverage[3]	Basis of Household Sampling Frame[8]
Australia	Income and Housing Survey 1981-82 (17,000)	Peter Saunders	97.5[4]	Dicennial Census
Canada	*Survey of Consumer Finances*, 1981 (37,900)	Michael Wolfson Roger Love	97.5[4]	Dicennial Census
Germany	*Transfer Survey*, 1981[2] (2,800)	Richard Hauser Ingo Fischer Gunther Schmaus	91.5[7]	Electoral Register and Census
Israel	*Family Expenditure Survey*, 1979 (2,300)	Lea Achdut Yossi Tamir	89.0[5]	Electoral Register
Netherlands	*Survey of Income & Program Users* 1983 (4,833)	Aldi Hagenaars	99.2	Address Register of the Postal & Telephone Companies
Norway	*Norwegian Tax Files*, 1979 (10,400)	Stein Ringen	98.5[4]	Tax Records
Sweden	*Swedish Income Distribution Survey*, 1981 (9,600)	Peter Hedstrom Robert Erikson	98.0[4]	Population Register
Switzerland	*Income and Wealth Survey*, 1982 (7,036)	Brigitte Buhmann	95.5[9]	Electoral Register and Central Register for Foreigners
U.K.	*Family Expenditure Survey*,[2] 1979 (6,800)	Frank Cowell Stephen Jenkins	96.5[6]	Electoral Register
U.S.A.	*Current Population Survey*, 1979 (65,000)	John Coder Tim Smeeding	97.5[4]	Dicennial Census

[1] Dataset size is the number of actual household units surveyed.

[2] The U.K. and German surveys collect subannual income data which is normalized to annual income levels.

[3] As a percent of total national population.

[4] Excludes institutionalized and homeless populations. Also some far northern rural residents (inuits, eskimos, laps, etc.) may be undersampled.

[5] Excludes rural population (those living in places of 2,000 or less), institutionalized, homeless, people in kibbutzum, and guest workers.

[6] Excludes those not on the electoral register, the homeless, and the institutionalized.

[7] Excludes foreign-born heads of households, the institutionalized, and the homeless.

[8] Sampling Frame indicates the overall base from which the relevant household population sample was drawn. Actual sample may be drawn on a stratified probability basis, e.g., by area or age.

[9] Excludes nonresident foreigners but includes foreign residents and the institutionalized.

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NOTE

*The author would like to thank the National Science Foundation for their support of the Luxembourg Income Study (LIS). This statement reflects the views of the author and does not necessarily reflect those of this organization and sponsors. He accepts full responsibility for all errors of commission and omission. Questions may be directed to Dr. Smeeding at (615) 322-8541.

Representative **Hamilton**. OK, gentlemen, thank you very much for your statements.

Let's begin this way: You've each heard the others testify, you've each presumably read the others' statements, of your colleagues. What statements of your colleagues do you just flat out disagree with?

Mr. **Gallaway**. Everyone turns and looks at me.

Representative **Hamilton**. You all——

Mr. **Gallaway**. I guess I'm expected to be the ultimate disagreer. I've played that role in the past.

I think the only response I have to some of the remarks that have been made is to point out that when making comparisons over time—which is a very valuable thing to do—we must be conscious of which years we compare with which years.

There are 2 years in particular that are quite important in this whole scenario, 1979 and 1981. If you make comparisons between 1979 and the present, you will get a much more muted picture of what has been going on. The declines in income for the bottom quintile are quite pronounced in the years 1979 to 1981.

If you pick up the scenario in 1973 and look at what happened to the bottom quintile between 1973 and 1981, you find that they experienced absolute losses in income. The top quintile was gaining marginally. Since 1981, the bottom quintile has actually been gaining in terms of average income. But, if you compare the present with 1979, you draw the opposite conclusion.

So I would make the addendum that it's important what years we're talking about. There is a general pattern of malaise, extending well back into the seventies, starting perhaps in 1973 and running on through 1981, which has been reversed.

Since 1981, I'd argue that the pie has been increasing markedly—which we all agree on. Not only that but the shares of all groups have been rising. The increase is probably most pronounced in the middle quintile and next the top quintile with the other quintiles about the same. But there are increases across the board. However, the nature of the increases is such that there's probably some mild rise in inequality associated with it.

I think that's the only remark I'd make.

Representative **Hamilton**. Mr. Gottschalk.

Mr. **Gottschalk**. Clearly I have no disagreement that one shouldn't be looking at recessions. During every recession which we've ever had inequality has gone up. I totally agree with that. That's why in all of the numbers I cited to you none of them are looking across recessions; I've looked only peak to peak. That's the first point.

The second is that it is simply not true that income of the lowest quintiles have gone up. Between 1979 and 1987 they haven't. And we know if they haven't gone up between 1979 and 1987 they surely didn't go up between 1981 and 1987. So I don't know where those numbers come from.

The third point concerns disincentives. I'm sure it's something which we're going to be discussing as time goes on and I'd like to bring it out in the open right now. Mr. Gallaway makes much of disincentives caused by government policy and I certainly am not going to argue that there are no disincentives. Clearly when you transfer income to someone or you offer them almost any kind of a benefit, people are going to react to that. We're all economists; we all believe that. So the question is not one of whether there are behavioral responses or disincentives, but how big they are.

Now in earlier work—work which was alluded to in the testimony—Mr. Gallaway has claimed that increases in transfers can actually increase poverty. That would be very troublesome if we really believed that by trying to help we actually hurt. My aim is to try to make things better for those at the bottom. Certainly if I believed that transfers hurt I would say cut transfers.

The fact is that all microeconomic studies have shown that when people receive transfers they cut back their income. But if you give a person a dollar they cut back their incomes by less than a dollar. Therefore, transferring income or any government program will have some benefit.

As Arthur Okun said, there's a leaky bucket. When you try to hand somebody a bucket of water—a dollar—they're not going to receive that full dollar. Why? Because they will adjust to the new situation. There will be some expenses in transferring. But they will still be receiving something. And therefore I think that there is a fundamental disagreement between Mr. Gallaway and me on whether government policies have a net benefit or not.

Thank you.

Mr. **SMEEDING**. I agree for the most part with what Peter Gottschalk said. But I think there's no reason why in today's environment if we try and help people at the bottom of the distribution, that we can't have our efficiency and our equality, too: Take the expanded earned income tax credit; President Bush's refundable child care tax credit; the 8 billion dollars' worth of in-kind benefits for health, nutrition, housing, and early education of America's kids recommended by House Democrats and Republicans alike.

Those things are good investments: they mean that the poor are going to have to work more if they're going to get benefits and the earned income tax credit—because you don't get it if you don't work—and they're going to produce a more equal distribution. So there, let's go do that. That's 20 billion dollars' worth of programs.

Representative **HAMILTON**. Now do I understand on the very broad questions here all of you agree with the statistics, for example, at the bottom of Mr. Gallaway's first page in which he's really saying the pie has expanded; all of you agree with that, right? No quarrel.

[Nods of assent.]

Mr. **GOTTSCHALK**. Bigger pie.

Representative **HAMILTON**. Bigger pie.

All of you agree, too, that there has been some increase in inequality, the distribution. I understood you to say that, Mr. Gallaway.

[Nods of assent.]

Representative **HAMILTON**. So the real differences lie in how much that change has been, right? And you said, Mr. Gottschalk, in your testimony that this change in inequality is something new, when you were in graduate school nobody studied this because it didn't change, right?

So there has been a change, is that right, in the last—what period of time—decade, roughly?

Mr. **Gallaway**. I would say the upswing starts about the end of the 1960's.

Representative **Hamilton**. You began to get some changes in the income distribution.

Mr. **Gallaway**. The standard index of income concentration that the Census people report reaches a minimum in 1968. I think it's the same in 1967 and 1968——

Representative **Hamilton**. Did we not have——

Mr. **Gallaway** [continuing]. And it has risen, with some ups and downs.

Representative **Hamilton**. Did we not have changes in income distribution after the Great Depression, for example, or after World War II? I mean, you had changes then.

Mr. **Gallaway**. After World War II there was a period of systematic decline. If we pick up the tale in 1947, the standard index of income concentration is slightly less than 0.380. It then declines with again ups and downs, the cyclical patterns that Peter Gottschalk is talking about, to 0.348, I think, in the late 1960's and then it begins to rise again, with some fluctuations induced by cyclical factors.

Representative **Hamilton**. Has the increased gap that we've identified come about because those at the top are doing very well or has it come about because those at the bottom are doing less well?

Mr. **Gottschalk**. Let me go back to the question about historic perspective—actually the odd period is the postwar period. If you look back historically, we've had huge changes in inequality. In fact, what we're experiencing today is not very large compared to what happened during the twenties. So in some sense the anomaly is the lack of change in inequality in the postwar period.

Another thing I was taught is that there is nothing about a market economy which ensures you you're going to have the distribution which you want. If we all start eating meals in different kinds of restaurants, we create certain kinds of jobs and we get rid of certain kinds of jobs. When we eat in those restaurants, we're not making a decision, "Gee I want to put a well-trained chef out of business and I want to get more teenage kids flipping hamburgers," but that's what we're doing.

Market economies do lots of great things. One of the things which they don't do is ensure that you're going to have the kind of distribution which you want.

Representative **Hamilton**. OK. And the gap that has occurred between the rich and the poor, does that result in good performance at the top or poor performance at the bottom?

Mr. **Gottschalk**. Both.

Representative **Hamilton**. Both.

Mr. **Gottschalk**. Actually what's surprising is that an awful lot of it has been going on at the top, but frankly that bothers me less than what's going on at the bottom.

Representative **Hamilton**. Yes.

Mr. Smeeding.

Mr. **Smeeding**. I agree with that, but I think the interesting thing about the 1980's is that this is the first time that inequality has increased in a recovery—we're right now in the 6th year of economic expansion. Every other postwar expansion—and we had big expansion in the sixties, for instance—you can see big expansions lead to declining inequality, where particularly the bottom end has gained. For the past 6 years the bottom end has been losing, despite the fact that these are the "good times." Who knows what is going to happen when we hit a recession. I can't imagine it's going to get any better.

And it primarily I think has been the top end moving away, and I'm less bothered by that as long as they pay what I think to be their fair share in terms of taxes to help support the deserving people who are really left behind at the bottom, in particular children.

Representative **Hamilton**. Congressman Upton.

Representative **Upton**. Thank you.

Mr. Smeeding, you cited some statistics comparing Canada and the United States in terms of poverty level. Why do you think that that's the case? What are some of the big differences between the two nations?

Mr. **Smeeding**. Well two that I can point at: First of all, they have a refundable child tax credit or child allowance. It's small, but it does put a floor underneath the incomes of all children in Canada. We do not have one.

The second thing is I think they have a more generous unemployment compensation system than we have.

Representative **Upton**. Do they have an income tax deduction like we have?

Mr. **Smeeding**. Yes, but it's refundable. They have a personal tax credit against taxes but it's refundable, it's in effect—in other words it's sort of like the refundable credit that President Bush has proposed for children.

Representative **Upton**. So your thoughts then would be if the Bush child care program was adopted by Congress that that gap would narrow between the two countries——

Mr. **Smeeding**. Just a little bit because it's so small, it's only limited to kids under 4. But if you did that for all kids under 18 and called it a child tax credit and took away the exemption—because the credit is worth more to them—and made it refundable, you'd do a lot better. A lot better.

The rest of the difference is something that we don't really know, Congressman Upton, to tell you the truth. We just discovered this trend at the end of March. The 30th of March is the first time that we discovered the differences between the United States and Canada and we have not obtained a real good handle on what the differences are yet. But the trends in table 3 of my prepared statement are clear. Child poverty is going up and theirs is going down.

Now some people will say that's because we have a lot of minorities or a lot of heterogeneity; we do. But if you look at children in white non-Hispanic families in that table you find the same pattern. OK? So it's not just that we have more minorities.

And it's not just our single parent families. In fact the Canadian poverty rate among children in single-parent families has fallen, ours has held roughly equal. So those are a few things. Basically the Canadians spend a little bit more for basic income support at the bottom for families with children than we do.

And we don't want to get into health coverage or anything like that because we know what we're going to find there, right? Canadians have all got basic health care and we have at least a third of our poor kids who don't have any health care, any health insurance.

Representative UPTON. Mr. Gallaway, do you have anything to add to that?

Mr. GALLAWAY. I was sitting here looking at some numbers, Congressman Upton, to answer Peter Gottschalk as to where I got the confusion that the bottom quintile was getting better off, at least in terms of absolute incomes, since 1981. It's just pretty simple arithmetic, Peter; 5 percent of what we had in 1981 is less than 4.6 percent of a 16 percent larger pie in 1987. It's that simple. The big problem was a tremendous sort of backsliding during the period of the seventies in general.

So I'm sorry if I'm nonresponsive to that.

Representative UPTON. You know, it's interesting, going to this table that Mr. Gottschalk has circulated, the differences are more dramatic between 1973 and 1987. But I note that if you look at—going back to the year that you cited—1980 or 1981 how you would have different numbers than if you look at even 1982 to 1987. I note that the percentages at the lower decile are basically a wash. They actually increase marginally from 1.64 to 1.67 but the lower deciles are—if you look just at the years 1982 to 1987, the lower really one through five——

Mr. GOTTSCHALK. You're right. That's a good point.

Representative UPTON [continuing]. They're a wash or they improve. Where do you think that trend is going, if you had to estimate where 1988 would be?

Mr. GOTTSCHALK. I got out of the projection business about 3 years ago.

Representative UPTON. You want to eat? You mean you don't want to work at Census for $6 an hour——

Mr. GOTTSCHALK. That's right. I find it a dangerous business. That leads to the quesiton of what's causing the change. If I knew that was causing the changes in inequality then I could project. The problem is that I really don't. I don't know the causes.

Representative UPTON. Mr. Gallaway.

Mr. GALLAWAY. I think part of the problem is that we've had something that's a little unusual in the 1980's. The interregional or interstate income differentials have widened very substantially. A lot of the increase that we're observing in the eighties is because of that.

Historically, what happens with widening interstate income differentials is they tend to be temporary. Usually, some States benefit from what economists call changes in relative prices that move in their favor; other States benefit by changes that move the other way.

There was a period when Wyoming was a marvelous example of economic growth until relative energy prices started moving against them, and the eighties have not been kind in that case. As a consequence more of what we're observing in the aggregate inequality statistics has to do with the fact that there are larger differentials between States.

If you adjust for that, what you find is that the increase in the residual amount of inequality, which Professor Vedder and I call core inequality, has been markedly less than the aggregate statistics would indicate.

There is also the matter of family structure changes. This is a difficult one to get at. The evidence indicates it's something that we need to look at, and I don't think any of us are at this point able to offer conclusive findings.

But it's clear that within group measures of income inequality—and these are from the CPS tables—do show a systematic pattern associated with family size. If you take all the families with a family size of four, you get the least inequality among those families. As family size falls beyond that, you get more inequality. As it raises beyond that level, you get more inequality.

Now we've tended to move towards smaller family sizes, and that's part of the reason I think that Peter Gottschalk concentrated on the sample he did, because it gets rid of some of these problems. But I think these are things that we have to pay more attention to.

The core inequality that's left out there—what's happening in the States—is influenced in many cases by particular patterns of State public policy. You can do a fairly good job of explaining those variations in inequality.

Representative UPTON. I wonder how this table might look if you broke it down by regions of the country. Have you done anything like that?

Mr. GOTTSCHALK. We did it at one point. I would be interested in seeing the numbers. I remember Bob Haveman and Betson did a study looking at the differences between the amount of variation in income which could be explained by interstate differences. I remember those as being very small—on the order of 6 to 10 percent of the variation.

One of the questions I think you need to ask is why should we not be concerned if the change in inequality is between States. Let's accept Mr. Gallaway's numbers. Let's say that a part of this is a change in States. Why should I not be concerned that Michigan is doing poorly? What we're being told is you're only concerned about the inequality within Michigan, you don't care whether Michigan is falling relative to the rest of the country. I'm concerned about both. I don't see any particular reason why I shouldn't be concerned about interstate inequality.

Representative UPTON. No, I just wondered if perhaps there's one region that's particularly bad and the other three, for example, would be——

Mr. GOTTSCHALK. No, in fact I recently saw an article which looks at changes in inequality by region. It's going to be coming out in the Journal of Human Resources. There was no particular pattern in State inequality. The question which was being addressed was "Is the Rust Belt not only getting a smaller pie but distributing that pie less equally?" There was no systematic relationship.

Mr. **Gallaway**. What years, Mr. Gottschalk?

Mr. **Gottschalk**. The census years.

Mr. **Gallaway**. I can give you some exact numbers on what's happened to the standard index of income concentration by region between 1980 and 1986. These are calculated from the CPS tapes.

In New England, the index rose by 2.02 percent, in the Middle Atlantic, it was up 6.55 percent—so these are increases in inequality—East North Central, 7.59 percent, West North Central it was up by 9.82 percent, South Atlantic, it was up by 9.45 percent, East South Central, 10.39 percent, West South Central, 1.07 percent, the Mountain, 8.44 percent, and Pacific, 6.92 percent.

Mr. **Gottschalk**. So it's everywhere.

Mr. **Smeeding**. It's everywhere.

Mr. **Gallaway**. Yes. The range is from about 1 percent to 10 percent. That West South Central one is an interesting one to look at.

Representative **Upton**. One line of questions I'd like to pursue is with regard to the differences perhaps between the distribution of income as compared to another index, consumption at the various levels. I'd like to hear from each of you in terms of your thoughts in that regard.

Mr. Smeeding.

Mr. **Smeeding**. Consumption is certainly distributed much more equally but you have to be careful when you look at consumption. For instance, you might ask why in some of Mr. Gallaway's earlier work you can find that people who are in the lower end of the distribution are consuming two times—twice as much as their income.

It's pretty simple: one large cause is the fact that the Bureau of Labor Statistics counts consumption on the basis of what's known as purchase commitments. So if you go out and put down $200 and buy a $6,000 Hyundai, you've consumed $6,000. In other words, a good part of it is debt.

Now this question also comes to the fore regarding the Census Bureau report. Interestingly once you move beyond equity in an owned home, you get to debt. In other words, should we—if we're going to make an adjustment to the fact that people have more net wealth, should we take account of the fact that people have net debts as well? And they haven't done that. So that's one answer about why consumption is more equally distributed than income.

I'll be brief because I can see your buzzer is going off.

Representative **Upton**. That's the Senate side; we don't have any vote. I do have to leave shortly though.

Mr. Gottschalk, your thoughts on consumption.

Mr. **Gottschalk**. Clearly one of the ways that poor people can have more consumption is by dissaving. I don't say "Gee the poor don't consume that differently" when we know that the poor, in order to consume that level, are having to dissave like mad, while the rich are accumulating assets. It just means that in the future those rich will be able to spend and in the future those poor will pay off their debts.

Now I know that Mr. Gallaway's reply is "Yes, but today's poor may be tomorrow's rich." That is certainly true. However, the amount of mobility is just simply not enough to explain away the changes. There is some saving going on by those at the bottom and there is savings going on by those at the top. Since income buys you not only consumption today but consumption tomorrow, income is a proper measure not consumption, which only focuses on today.

Mr. **Gallaway**. Well I think my response is conceptually consumption is probably a better way to do evaluations. I know there are some countries in the world which are committed to measuring the extent of poverty through a consumption-based measure.

I've been having some conversations just this quarter with Professor Minhaus from the Indian Statistical Institute and this is how India, for example, is defining its poverty populations.

On the other hand I will say this: I think our income data are better than our consumption data. I think that's clear. It's because we don't put as much effort into it.

The basic consumption data that we generally refer to are from the consumer expenditure survey, which is collected with the primary purpose of providing imput to revise periodically the Consumer Price Index. And there are some shortcomings to the data. At the same time, I think they are very illuminating.

The fact that the differences in inequality that you observe if you look at the consumer expenditure survey data are so much less suggests that there are certain processes that are going on here, that perhaps many people who are in the lower quintile of the income distribution are there in a transitory fashion. It's quite consistent with the economists' notions of spending being geared to permanent income or expectations of permanent income rather than transitory income.

You have many people who are temporarily in the lower quintile of the income distribution. You have some—admittedly in substantial numbers—who tend to be there on a permanent basis. But there is a lot of movement in and out.

I remember having conversations with people at BLS about those data, after the Wall Street Journal op ed that used the numbers, and they were emphasizing, too, that you have substantial numbers of students, people who are in a situation where they are making investments in education, investments in human capital which they hope will translate into higher future incomes.

I think we need better data on consumption, to be perfectly honest. And I think with better data, we're going to see some substantial closure.

Now one point worth making for Professor Smeeding is that if you look at the consumer expenditure surveys over a series of years you see exactly the same pattern. I mean it's not that it's a 1-year pattern.

Are we having a phenomenon where the people in the bottom quintile of the income distribution are getting their consumption overstated every year by systematically buying consumer durables, automobiles and so on? You can see this happening with some people in that bottom quintile. But if it happens less regularly than it does in the top quintile, this has to get reflected in the average levels of comsumption.

Representative **Upton**. Thank you.

Representative **Hamilton**. Is the fact that we have this changing share of income distribution something that policymakers ought to be worried about at all? I mean, how important is all of this?

Mr. **Gottschalk**. I think it's tremendously important. Basically there is a tide rolling across the economy. We have growth—we basically know how to control growth. There's wide consensus on how to do that. Sometimes we fail at it but at least we can affect growth. Then there's this other thing, inequality. We don't know what's causing inequality but nevertheless it has very real impacts.

It seems to me that if I were sitting in a policymaking role, I would say we have to do something. The increase in inequality may turn around. It may be that next year inequality starts dropping and starts dropping just as fast as it went up.

Representative **Hamilton**. Why should we do anything about it?

Mr. **Gottschalk**. Because at this point the changing inequality is more important to the poverty rate than the growth.

So if you're concerned with poverty, then if I could control only one of two things: economic growth or inequality—I would want to control, inequality. Cycles, we admit, have huge impacts on poverty. But if all I could affect was the secular growth in the economy or the secular change in inequality, I'd choose inequality. Because from everything which we've done, inequality is growing so fast right now that it's more than offsetting the impact of the secular growth.

Mr. **Smeeding**. In fact that's why we find that despite the fact that incomes are growing the percentage of children in poverty is still at 20 percent. It's been there all through this growth. And it isn't just kids in single parent families, it's kids in two-parent families, too, who can't earn enough to get their families out of poverty.

Representative **Hamilton**. You suggest that the people that are hurt the most by this inequality are the children?

Mr. **Smeeding**. Absolutely. There's a relatively smaller number of them and they're much worse off today than they were a decade ago. I said this at a conference last Friday and absolutely nobody disagreed; everyone agreed. These kids need some security, some minimal level of security.

In 1935, we found elderly, the widows were in trouble, we set up the Social Security Act. Before the first dollar was spent, we had added the disabled. In 1965, we added H for health insurance. When are we going to put a C in there for kids, financed right through a payroll tax?

Representative **Hamilton**. Mr. Gallaway, are you concerned about the rapid increase in inequality that they've described here?

Mr. **Gallaway**. Well let me begin by saying that I'm not quite as optimistic as Peter Gottschalk is about our capacity to control and manage economic growth. We fell into that trap once before. I'm getting to be something of a graybeard. I was a very active economist back in the 1960's when the new computer technology came along and we started building the large macroeconometric models.

I was involved in building some of the very initial ones which were quite small at the time but they escalated and we were sure that we had learned how to manage an economy and we could finetune it down to a gnat's eyelash. It was a dangerous notion, because what it ultimately led to was the malaise of the 1970's when we found that we really couldn't do it as well as we thought.

A part of the problem of the malaise of the 1970's is what I call the instinct of compassion, which is a desire—the same desire that's being expressed here—to do something for poor people. But what you frequently encounter are results and outcomes that are not the ones you anticipated and they have a deleterious effect on economic growth.

Representative **HAMILTON**. But I'm just trying to get some general sense of your——

Mr. **GALLAWAY**. Yes, I would much rather——

Representative **HAMILTON**. You're really not too concerned about this growth in inequality?

Mr. **GALLAWAY**. Well especially since I think a significant part of it is probably transitory. That's been the historic record in terms of interstate differentials——

Representative **HAMILTON**. And your advice to policymakers would be to do nothing?

Mr. **GALLAWAY**. My advise to policymakers would be to think very carefully before doing something simply because they felt it might attract a few votes from some constituents at home.

Representative **HAMILTON**. Now let me ask about causes here. I know this may be a little bit outside your expertise, but what causes inequality of income? Is it the demographic changes that are at us, labor force changes; what are the primary causes of inequality of income?

Mr. **GOTTSCHALK**. We know some things—it is not demographics.

Representative **HAMILTON**. I know that. I saw that in your statement. I'm trying to figure out what it is now.

Mr. **GOTTSCHALK**. OK. Possibly it's the impact of international trade, but I think that we don't know that yet. It's too easy for people to jump to those things which haven't been explored.

Increasing international trade basically made our low-skilled workers have to compete with low-skilled workers outside, driving down their wages, and our high-skilled workers were able to flow into markets overseas which had few skilled workers, bidding up their wages, bidding down the wages of low-skilled workers. That's economic theory. Theory would tell you that that would be the impact of international trade.

Representative **HAMILTON**. You don't think you know the causes, you can theorize about the causes, is that right?

Mr. **GOTTSCHALK**. And I think that people can theorize about——

Representative **HAMILTON**. That sounds like a pretty good theory to you?

Mr. **GOTTSCHALK**. It sounds like a theory worth pursuing.

Representative **HAMILTON**. Worth pursuing.

Mr. Smeeding, what are your theories here?

Mr. **SMEEDING**. I think that's true. It's clear that earnings inequality is very important in this country. It's clear that earnings have become much more unequal over the past few years.

It's also clear, however, to me that the people at the bottom aren't doing so well and it's not simply, as Peter Gottschalk said, demographics, it's not just the baby boom coming through and depressing each other's wages; the baby boom is pretty much through now.

It's young workers today who aren't holding jobs and even if they are, they can't support families or afford to have their spouses stop working to have children. They don't have the educational preparation, we haven't made the investment, effective investment in their productivity and they're losing out. That's just part of the story, but it is a big part.

And I want to be very careful that I'm not going to jump to any simple solution either; there is no simple solution. But part of it is that we have a much less secure lower income population today. I know, for instance, our transfers to families with poor children haven't kept up over the past decade.

But it isn't even just that. Mr. Gallaway hit on an important point here, I think: We haven't made the health, nutrition, and early education investments in lower class children that we should have had. We aren't making them now. What that tells me is to the extent that there is continuing foreign competition, that large numbers of the next generation of American workers are not going to be very well able to compete either.

Representative **Hamilton**. Is it fair to say that you think that one of the reasons for the shift toward inequality resulted from a surge of new labor force entrants, pushing down wages, is that what you're telling me?

Mr. **Gottschalk**. That could explain it during the late seventies and very early eighties, but now that has passed and if you believe that it was the demographics, the baby boom, then it should have changed and it didn't change.

Representative **Hamilton**. Do you agree with that, Mr. Gallaway?

Mr. **Gallaway**. I think——

Representative **Hamilton**. Mr. Gottschalk has rejected the demographic shifts as the cause.

Mr. **Gallaway**. In general, just pure shifts in demographic weights tend to be overplayed as a force in producing change. Once you work with these numbers, you discover that you need tremendous shifts in weights to affect aggregates significantly.

Demographic effects, yes. I think perhaps more significant effects. I do want to clarify one aspect of your original question. You asked what causes inequality. Do you mean what causes inequality in general or what has been causing changes in inequality?

Represententive **Hamilton**. Changes.

Mr. **Gallaway**. Changes; those are two different questions.

I alluded to one factor that I think we have to explore. When you begin looking at the income statistics, particularly for families with multiple earners, you see some very systematic patterns. There's a greater incidence of spouses working with high-income families, relatively high-income families. Not only that, the incomes of the working spouse tend to be systematically higher the higher the income of the spouse. So, there's a multiplicative effect. That's one issue that needs further exploration, based on a preliminary look at the data.

Representative **Hamilton**. When you talk about demographic changes, and in Mr. Gottschalk's case he's saying that those are not—that the changes are not a result of the demographic shifts, do you include things like the breakdown of the family, the proliferation of the single parent family, is that demographics?

Mr. **Gottschalk**. Yes. Yes, I include that, yes.

Mr. **Galloway**. I don't count that as demographics. I count that as something else.

But that's a debatable proposition, I wouldn't quarrel with Peter Gottschalk on treating that as demographics. But, when I'm thinking of demographics, it's the shifting composition of the population, such as the age composition, when the population gets older, and so on.

And the current rise in inequality doesn't appear to trace, for example, to——

Representative **Hamilton**. Well let me put it this way: If you would kind of put it in a single sentence, what is the primary cause of the changes in income distribution, what is the primary cause?

Mr. **Galloway**. If I had to offer one single cause—academics don't like single causes——

Representative **Hamilton**. I know.

Mr. **Galloway** [continuing]. But I'll answer the question. I would go with the widening spread in interstate income differentials in the United States.

My second choice—no, I'll only make a first choice for you. Let's not muddy the waters.

Mr. **Gottschalk**. You want one. My hypothesis is international trade.

Representative **Hamilton**. Hypothesis is—you acknowledge it's a theory. OK.

Mr. Smeeding.

Mr. **Smeeding**. I'll agree with that hypothesis and add our tax policy in recent years at the Federal level, which has left the well-to-do with a greater proportion of their incomes after tax than it did at the turn of the decade.

Representative **Hamilton**. Well I want to get into that, too, and we may as well go in from your answer. And really the question is to what extent government policy affects income distribution. And you're saying that tax policy is a very important factor.

Mr. **Smeeding**. Taxation and transfer payments in particular affect the primary distribution of income to bring it to the final distribution. In other words, it affects what happens in the market.

Representative **Hamilton**. I don't know if that—are you speaking into the microphone, I can't hear you very well.

Mr. **Smeeding**. Yes. What I said, sir, is that taxation and transfer policy certainly affects the distribution of income. Our Federal taxes have become a little bit less progressive, I think, over time while incomes have grown rapidly at the top, at least over the past few years. At the same time, payroll taxes are up at the bottom. We have finally returned to the fact that poor families don't pay income taxes, which is good, and we have a small earned income tax credit, which is good. But while that's helped balance the ship, the benefit is still prorich.

Representative **Hamilton**. Now let me just run through some things: Social Security would have a big impact——

Mr. **Smeeding**. That's the transfer side.

Representative **Hamilton** [continuing]. With reducing inequality, right?

Mr. **Smeeding**. Oh, absolutely, yes.

Representative **Hamilton**. And welfare programs would have an impact, right?

Mr. **Smeeding**. Yes, a much smaller impact.

Representative **Hamilton**. A smaller impact.

Federal income taxes would have a big impact, right?

Mr. **Smeeding**. Income taxes would have an equalizing impact, though the Census Bureau report found that the tax system in 1986 did not have a great equalizing impact or disequalizing impact.

Representative **Hamilton**. And any other Federal taxes, do they have much of an impact on income equality?

Mr. **Smeeding**. Payroll taxes do tend to be a heavier burden in the lower middle classes, although to the extent that we're talking about families with children we do have the earned income tax credit which helps reduce that liability at the very bottom.

Representative **Hamilton**. Do State and local taxes have much of an impact on inequality?

Mr. **Smeeding**. Oh, absolutely. Property taxes and sales taxes are a much higher proportion of low-income people's incomes, to some extent because they consume more, according to Mr. Gallaway.

Representative **Hamilton**. We've had three major Federal Tax Code changes in the 1980's. Have each of them had a discernible impact on income distribution?

Mr. **Smeeding**. Well I believe that the most important one, the 1986 tax change, was supposed to be distributionally neutral—in other words, it was supposed to broaden the definition enough at the top such that the average rate of taxation remained constant, although the variation in classes was decreased. It did decrease the variation within classes—but it also lessened progressivity.

Representative **Hamilton**. Now if you look at what's happening on the revenue side of the Federal budget, we have been increasing our reliance on the payroll taxes, on the excise taxes, on the user taxes, decreasing our reliance on the income tax. What's the impact of all of that?

Mr. **Smeeding**. In general, that produces more inequality.

Representative **Hamilton**. Produces more inequality.

Mr. **Smeeding**. Oh, yes. The taxes that are increasing bear more heavily on the lower income populations and the taxes that are decreasing bear more heavily on the high-income population. Now you can argue about this and we can have a long discussion about the fine points but that would be my general answer.

Representative **Hamilton**. Now Mr. Gallaway you said in your statement:

> When tax and transfer policies aimed at income redistribution are of a form that provides disincentives for economic activity, they may discourage economic growth while actually producing greater income inequality. However, when policies, especially those involving taxation, produce positive incentives for economic activity, both economic growth and greater equality may emerge.

And you put the 1986 Tax Reform Act in that latter category, right?

Mr. **Gallaway**. Correct.

Representative **Hamilton**. Do you agree with that, Mr. Smeeding?

Mr. **Smeeding**. In general, yes. The size of those differences is another matter, but in general, yes.

Representative **Hamilton**. In general you agree with his statement.

Mr. **Smeeding**. Yes.

Representative **Hamilton**. You're having trouble agreeing, aren't you?

Mr. **Smeeding**. Yes. I'm having a little bit of trouble because I've seen the tax change in 1986 but I see more inequality, too, so I mean it has not yet reduced inequality.

Representative **Hamilton**. Well——

Mr. **Smeeding**. Mr. Gallaway is very careful. He's very careful. He says "it should" or "it might" or "it could." But I have not seen it yet and I will be from Missouri today instead of Tennessee. Wait and see.

Mr. **Gallaway**. Without becoming excessively technical that statement is based on the results of assessing the 1986 Tax Reform Act changes through the vehicle of a computable general equilibrium model of the economy. That model builds in all of the various disincentive effects using established estimates of elasticities and the like from the economics literature.

The specifics that emerge from that model on the effects of different portions of the Tax Reform Act are as follows: The strictly income tax portions are almost, but not quite, revenue neutral; I mean they are within one-half of 1 percent. Just the income tax portions, as distinguished from the business corporate tax portions.

However, they are quite stimulative to economic growth as they work through the model, to the tune of about 2 percent. Not only that, but the distributional effects across income classes are most pronounced in the bottom income category, which is under $10,000 of income. In that group, there is a gain of about 5 percent.

The top-income categories had gains of 2.5 to 3 percent. All income categories gained as a result of it.

Now I can't say as much that's positive about the non-income-tax portions of the Tax Reform Act. They were not revenue neutral, they tended to benefit the Federal Government by 2 percent or more at the expenses of all of the income classes. Net, with both type of taxes, the effects were positive on all income classes and most positive on the lowest income class.

Representative **Hamilton**. I want to move you into a discussion for just a moment, if you would, of the effects of high or increasing inequality. And I'm not sure I'm in your area of expertise here but why is inequality bad; what's bad about it?

Mr. **Gottschalk**. From my standpoint, I'm concerned about low-income people. And if you told me that——

Representative **Hamilton**. You're not at all worried about the gap? I mean, as long as the low-income people have enough—whatever enough may be—you're not worried how rich the rich get, is that right?

Mr. **Gottschalk**. If I thought that the rich getting richer had no impact on low-income people, then I, at a very personal level, would rather not see widening gaps, but from a social policy standpoint it would not seem to me to be the kind of problem that increasing poverty is, and that's the focus.

Representative **Hamilton**. Do you make any link, for example, between inequality and some of the bad things that happen in society like crime or drugs or—I mean, does that——

Mr. **Gottschalk**. It certainly can. I'll admit I'm out of my area, but certainly people have talked about crime being caused by a person's feeling of relative deprivation. You see the 29-year-olds driving BMW's and you say, "By George that's not right. I'm going to go out and get my BMW." And the only way I know how to get a BMW is to steal one and you steal it.

Representative **Hamilton**. Fundamentally then you see this business of inequality of income as a moral issue, right?

Mr. **Gottschalk**. I see poverty as a moral issue, yes.

Representative **Hamilton**. Do you agree with that, Mr. Smeeding?

Mr. **Smeeding**. Yes, I do. I was told this morning that in 2 weeks you'll have the underclass people up here. I think that's a very important issue.

Representative **Hamilton**. What, I didn't hear that?

Mr. **Smeeding**. Underclass, the people who——

Representative **Hamilton**. What about them?

Mr. **Smeeding** [continuing]. Have been left behind, who tend to have dysfunctional lifestyles and behaviors, who tend to be poor for 8, 9, 10 years, who tend to be stuck, who aren't benefiting at all from this growth, those are the people that I'd be concerned about. And the people who you'll have on that panel are much more able to talk about that issue than I am.

Representative **Hamilton**. Do you see this inequality as a moral issue, Mr. Gallaway?

Mr. **Gallaway**. I think I'm being asked if I've stopped beating my wife, but I'll respond——

Representative **Hamilton**. I'm not trying to trap you, I'm just trying to understand——

Mr. **Gallaway**. Oh, no, I'm in basic agreement with Peter Gottschalk up to a point. You can start asking questions whether—as inequality opens up—are those at the top benefiting at the expense of those at the bottom or is this a situation where all are benefiting and some are benefiting more?

In the broad literature on this there are philosophers who try to deal with the question of what's an optimal income distribution. John Rawls tried it once in what I think is a very interesting way.

John Rawls' approach deals with situations where people with low incomes are not envious of those with high incomes. They are interested in some optimal absolute outcome. And I think I tend to approach the whole question much in that Rawlsian framework of looking for an optimal distribution of income.

Once more, I don't want to become excessively technical. This is the kind of stuff that ends up in scholarly papers. My feeling is that we have pursued the transfer payment, the public policy approach to dealing with income inequality, to a point that has taken us beyond what Rawls would describe as an optimal distribution of income. Based on that judgment, if we're talking about achieving an optimal distribution of income, I think we've gone beyond what is necessary for that and in the process we have been generating more inequality than is optimal in the system.

I think we have more than the optimal amount of inequality, but it's not just a recent phenomenon. In fact, if anything, recently we've been moving the other way. The big problem arose in the seventies when we moved decidedly beyond an optimal distribution of income.

Mr. Gottschalk. I think that that's just absolutely wrong, that there's no question in my mind that the way of solving the problem for low-income people today is not to cut transfer programs more, which is the implication of what Mr. Gallaway is saying. I think that's simply just not right.

Mr. Smeeding. I agree with that, too. I mean, I agree with what Mr. Gottschalk is saying.

But I think Mr. Gallaway missed the message that John Rawls was trying to send. He talked about guaranteeing some minimal level of security to the least well off people in society.

It's very instructive, I think, to compare children and the elderly over the postwar period. Because for the elderly we've done it, we've done really well, they live in a Rawlsian world. To be old isn't to be poor any more and in fact the Census Bureau report right here says that when you count with a broad definition of income you have about 5 to 7 percent of the elderly as poor.

But that is the exact opposite of what's happening to American children and the families in which they live. Even after you've counted all of the added income amount here, the poverty rate among children is still 16 percent, still 16 percent. We haven't done enough for them.

Representative **Hamilton.** This I guess I should have——

Mr. Gallaway. Children have adults to——

Representative **Hamilton.** How do we count in-kind income when we're talking about these inequality or equality figures? Should we add in-kind income to money income when we discuss inequality? Do we do it?

Mr. Smeeding. Well we do it on an experimental basis. It's not in the official data.

Representative **Hamilton.** It's not in the official statistics.

Mr. Smeeding. No. Although let me tell you there's no economist that I know who wouldn't say that food stamps are as good as cash. We should add food stamps to income directly. In fact, economists have proven that States regularly substitute higher food stamp benefits for lower AFDC.

Representative **Hamilton.** When we talk about in-kind income, what are we talking about, food stamps and——

Mr. Smeeding. Well the basic things we talk about are food, housing, and medical care. And food and housing, there is little disagreement, I think. The value of housing has risen because the supply of low-income housing has shrunk.

Representative **Hamilton.** But the statistics you all have been giving me today do not include the in-kind income——

Mr. Smeeding. The ones I gave you did. They include health benefits as well as the other two.

Mr. **Gallaway**. Mine on pretax and posttax transfer do include the noncash benefits. In many respects, I'm working with that same report.

No, the Census people have tried to estimate alternative poverty rates, including the value of noncash benefits, and they've been doing it systematically since 1979——

Mr. **Smeeding**. Since I did it in 1982, they have been. I was the person who wrote that report.

Representative **Hamilton**. OK. But when you do include those in-kind benefits, does that change these figures dramatically? For example, would that, Mr. Gottschalk, change your figures dramatically at all on this table you've given us here?

Mr. **Gottschalk**. I think that the levels change, the trends don't.

Representative **Hamilton**. So you'd do relatively marginal adjustments in these figures, right?

Mr. **Gottschalk**. That's right.

Mr. **Gallaway**. I would concur in that. When you put the in-kind in, the pattern of behavior of poverty rates doesn't change. The levels are lower.

Mr. **Smeeding**. A little bit.

Representative **Hamilton**. And Mr. Smeeding can you summarize for us how the inequality of U.S. incomes compares with the inequality of other nations, just quickly?

Mr. **Smeeding**. Just quickly, yes, we tend to have a higher level. We have a higher poverty rate——

Representative **Hamilton**. We have a higher level of inequality?

Mr. **Smeeding**. Inequality, yes, we have more people who——

Representative **Hamilton**. And what other nations are you thinking about when you say something like that? The industrialized nations basically?

Mr. **Smeeding**. Yes, I can tell you exactly which ones—well they fall into three rough categories. The most equal are the Scandinavian nations where they have huge taxes and transfers, the middle groups tend to be the European nations, like Holland, Germany, and the United Kingdom and we're just bringing France on line and there you find the same thing.

The most inequality tends to take place in the bigger countries—in fact, I grouped together the United States, Australia, and Canada. They're very big countries, they have——

Representative **Hamilton**. Where does Japan fall?

Mr. **Smeeding**. The Japanese don't let anybody look at their data. We very much want to get the Japanese involved in this data set——

Representative **Hamilton**. So you don't know?

Mr. **Smeeding**. No, we don't know. They might know a little bit, but it's not comparable. And we're working very hard to get the Japanese to join this project so we——

Representative **Hamilton**. Do they have real poverty in Japan? I mean, just in traveling in Japan I don't recall the ghetto-type situation——

Mr. **Smeeding**. Actually the ghetto-type situation is pretty unique to America. There may be some areas in northern Britain where there is this problem and some areas in—well let's say southern Italy where it's relatively underdeveloped but major European countries, the other countries we just mentioned, you don't find ghettos, big ghettos.

Representative **Hamilton**. Is the income inequality related to macroeconomic policy, and, if so, how?

Mr. **Gottschalk**. Absolutely. Business cycles are the biggest causes of changes in inequality.

Representative **Hamilton**. So business cycles you relate to the macroeconomic policy?

Mr. **Gottschalk**. Right.

Representative **Hamilton**. So you've had a period here of pretty tight money policy and pretty loose fiscal policy and that's aggravated the income inequality?

Mr. **Gottschalk**. No, actually during the—the recent recovery has been caused by very loose fiscal policy and very tight monetary policy and inequality has increased. I can't tell you—normally that kind of policy should have reduced inequality.

Representative **Hamilton**. But it didn't?

Mr. **Gottschalk**. But it didn't. And I think it's something more fundamental going on which is causing that change. But if the question is, If we go into a recession tomorrow what will happen to inequality? The answer is it will go sky high. So macropolicy is absolutely crucial.

In fact, the worry is that we have not gotten poverty rates down, we have continued to have inequality during a recovery; a recession will come at one point or another and then you're going to see historically high figures.

Representative **Hamilton**. Now when you use the word "income," you're talking about property income, you're talking about transfer payments as well as salaries and wages and that sort of thing?

Mr. **Gottschalk**. But what's interesting is it's coming about mostly from the wages and salaries.

Representative **Hamilton**. That's where the——

Mr. **Gottschalk**. Yes, that's where the action is.

Representative **Hamilton** [continuing]. Inequality comes.

Mr. **Gottschalk**. Yes. Yes.

Representative **Hamilton**. OK. I think that has it.

I want to thank you all for your participation this morning and your contribution to the work of the Joint Economic Committee. We thank you not only for your prepared statements but for your responses, and the committee stands adjourned.

[Whereupon, at 11:28 a.m., the committee adjourned, subject to the call of the Chair.]

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